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THESIS

THE ANALYSIS OF KINDERGARTEN CHILDREN'S SPEAKING VOCABULARY IN RELATION TO FIRST GRADE READING NEEDS

by

Elisabeth Lenora Enright

(B. S. in Education, Boston University, 1941)

submitted in partial fulfillment of the
requirements for the degree of
Master in Education

1 9 4 3

First Reader: Donald D. Durrell, Professor of Education
Second Reader: Helen Blair Sullivan, Assistant Professor of Education
Third Reader: W. Linwood Chase, Professor of Education

24051

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CHAPTER I

STATEMENT OF THE PROBLEM AND PREVIOUS RESEARCH

The condition of readiness to read involves a great many factors. Some have been found to be distinct abilities measurable by tests of various sorts. Others are less tangible but are observable as levels of development. All of these factors, however, must be considered as a network of skills which combine and are interdependent in affecting the state of readiness to read.

In no way does this study presume to select one phase of the reading readiness program as being the most significant factor. Rather, an attempt has been made to investigate the vocabulary requirements on the Kindergarten level for word meaning comprehension in Grade I reading as a contribution to the general pre-reading program. The study will also seek to:

1. Determine into what types of activities the vocabulary of Grade I reading books fall.
2. Measure Kindergarten children's knowledge of these words by a series of tests.
3. Note differences in word knowledge in contrasting communities.

The problem of vocabulary knowledge as a basis for First Grade reading has brought about several types of research work, the following of which will be discussed here:

1. The importance of word meaning in reading.

2. Vocabulary studies.

3. Informational testing.

The importance of meaning in relation to reading is quite generally understood. Gibbons[1] states that "the ability to read means first of all the ability to understand what is read". This statement is corroborated by McKee[2] who says "there can be no reading without meaning".

The exact nature of meaning and the development of a meaning vocabulary can be explained in part by Judd[3] as quoted in Gray and Holmes'[4] study, "Words gain their significance or meaning through reactions or responses called forth by the various stimuli of the environment of the child or adult". Therefore, as the child grows, his experience broadens and his vocabulary and his growth in meanings increases. The extent, however, with which a child increases

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1. Gibbons, H. D. "Meaning Side of Reading." California Journal of Elementary Education, IX (May, 1941), pp. 224-228.

2. McKee, Paul Reading and Literature in the Elementary School. Boston: Houghton Mifflin Company, 1934. pp. 99-100.

3. Judd, Charles H., et al. Reading: It Nature and Development. Supplementary Educational Monographs, No. 10 Chicago: Department of Education, University of Chicago, 1918. pp. 178-79.

4. Gray, W. S. and Holmes, E. The Development of Meaning Vocabularies in Reading. Publications of the Laboratory Schools, No. 6. Chicago: University of Chicago, 1938. 140 pp. p. 6

and develops his vocabulary depends upon several factors of which three seem of particular importance at the pre-reading period.

The first of these is intelligence. Gray and Holmes[5] report that "evidence is conclusive that intelligence is a highly significant factor in the acquisition of a meaning vocabulary". Hilliard,[6] as reported in this same study "correlated the results of four comprehension tests and found that only one factor correlated more closely with comprehension than did meaning vocabulary and that was intelligence".

The second important factor is experiential background. While it might be assumed that by the time the child reaches school age he has accumulated sufficient meaning vocabulary to attack the simple books required of the first grade, this is a dangerous assumption and one which Harrison[7] points out is erroneous. Children at school present a wide variation in experiential background. That which is common to one child may be completely foreign to another.

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op. cit.

5. Gray, W. S. and Holmes, E — p. 17

6. Hilliard, George H. — Probable Types of Difficulties Underlying Low Scores in Comprehension Tests. University of Iowa Studies in Education, Vol. II, No. 6 Iowa City, Iowa: University of Iowa, 1924. pp. 60

7. Harrison, M. L. — Reading Readiness. Revised Edition. Boston: Houghton Mifflin Co., 1939. vii & 255 pp. pp 32-33.

These variations in experience and vocabulary present a definite problem in reading. For Gibbons[8] states further that "the degree of understanding to be attained in reading depends first upon the number and quality of meanings which the children already possess," and McKee[9] makes it clear that "printed symbols do not give meaning to the readers, they merely stimulate him to recall familiar concepts...this meaning in reading comes from the reader's recalling and manipulating the concepts he possesses rather than from the printed symbol at which he looks". Horn[10] in his report as quoted by Harrison[11] indicates that "the author...does not really convey ideas to the reader; he merely stimulates him to construct them out of his own experience".

The third factor is, therefore, the problem of promoting rich and vital experiences to ameliorate and to broaden the experiential background of the pupils. In this thought, McKee[12] lists as one of the seven major fields of instruction

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8. op. cit. pp. 224-228

9. McKee, Paul "Vocabulary Development." Thirty-Sixth Yearbook, Part I, National Society for the Study of Education. Bloomington: Public School Publishing Company, 1937. p. 278

10. Horn, Ernest Methods of Instruction in the Social Studies. Report of the Commission on Social Studies of the American Historical Association, Part XV. New York: Charles Scribner's Sons, 1937. p. 154

11. op. cit. p. 135

12. op. cit. pp. 100-104

in the period of preparation for reading, "providing pupils with real, varied and rich experiences essential to the getting of meaning from materials to be read". He continues in saying that "he, (the child) should be given the background for the books and other matters which he will read". He then points out that the exact concepts required are not known and that research is needed in this field. Gray and Holmes[13] also state "one of the most important duties of all the teachers is to promote the development of adequate meaning vocabularies on the part of their pupils". In their concluding statement, they recommend "that teachers at various grade levels provide systematic guidance in acquiring essential meaning in reading..." They further recommend that "teachers continue intensive studies of appropriate methods".

Further evidence of the importance of vocabulary training is presented by Monroe[14] who reports that "difficulties in vocabularies and sentence structure were not measured in the present study, but were important factors in the reading disabilities of a number of cases".[15] She further states that "lack of vocabulary may impede progress in reading. Such children cannot utilize context in gaining clues to words since his vocabulary is too meager to suggest possibilities for the unknown words".

13. op. cit. p. 1

14. Monroe, Marion Children Who Cannot Read. Chicago: The University of Chicago Press, 1932. xvi - (205 pp.) p. 100

15. op. cit. p 101

In summarizing, it would seem that the most important factors in developing meaning vocabularies are:

1. Intelligence.
2. Experiential background.
3. An adequate program for the specific vocabulary training.

The study of children's vocabularies has been a source of considerable research. Divided into areas or specific fields, these investigations may be classified for purposes of this study as:

1. Studies of children's total vocabularies.
2. Vocabulary studies based on Pre-primers.
3. Vocabulary studies based on Primers.
4. Vocabulary studies based on First Readers.
5. Lists including only the minimum essential vocabulary.

1. In the first classification are those lists endeavoring to cover the total vocabulary of children. Of these, the most monumental work and the one which serves as a basis or criteria for a great many other studies is Thorndike's list[16] of 20,000 words. He derived these from literature for children; classics, textbooks, newspapers, magazines, correspondence, and a wide assortment of reference and technical books. These words were tabulated according to frequency and are not graded.

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16. Thorndike, E. L. A Teacher's Word Book. New York: Bureau of Publications, Teacher's College, Columbia University, 1931.

The Kindergarten Union list[17] gives the 2,500 words of greatest frequency from a list of 7,000 different words secured by a combination of numerous studies of the actual spoken vocabulary of pre-school children.

A similar study on a less extensive scale is that by Horn[18] who gathered and published a list of 1,082 words from a total of 5,000 different forms taken from the speech of children up to, and including, six years of age.

Gates[19] formulated a list of 4,300 words selected from the 2,500 words with the highest frequency from Thorndike's list, plus additional words from a count of children's literature, Packer's vocabulary of 10 first readers and Horn's list. The criteria for the selection of the words, was that of maximum interest and utility, and each word is given a frequency rating. Presumably this list is for Grades I and II.

Buckingham and Dolch[20] compiled from the results of eleven

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17. International Kindergarten Union — Child Study Committee. A Study of the Vocabulary of Children before Entering the First Grade. Baltimore: The Union, 1928. 36 pp.

18. Horn, Ernest — "The Commonest Words in the Spoken Vocabulary of Children Up to and Including Six Years of Age." The Twenty-Fourth Yearbook, National Society for the Study of Education, Part I. Bloomington: Public School Publishing Co. 1925.

19. Gates, Arthur Irving — A Reading Vocabulary for the Primary Grades. Revised and Enlarged. New York: Columbia Teachers College. Bureau of Publications, 1935. 29 pp.

20. Buckingham, B. P., and Dolch, E. W. — A Combined Word List. Boston: Ginn and Company, 1936. iii-185 pp.

careful and extensive investigations a list of 19,000 words which they graded according to frequency of use. They have plans for reorganizing this list into grade requirements.

These five lists comprise the major contributions to the field of total vocabulary studies on the basis of children's usage.

2. On the vocabulary studies of First Grade reading books, there has been considerable effort. This is explained in part by Gray and Holmes[21] as "doubtless due largely to the unusual significance of vocabulary problems during the early stages of learning to read". The purpose of the majority of such studies has been to determine the number and frequency of the words used. Several, however, have used their lists as a basis for building a core vocabulary for use at the particular level investigated.

On the pre-primer level, one of the first studies of note was that by Gross[22] in 1934, who analyzed ten primers published from 1927 and later. She tabulated 8,831 running words with only 393 different words. Her purpose was to note those words of relative importance - as determined by frequency - which might serve as a basis for the building of experience charts and for drill purposes, although she was

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21. op. cit. p. 108

22. Gross, A. E. "Preprimer Vocabulary Study." Elementary School Journal, XXXV (September, 1934). pp. 48-56

careful to state that this list was more of a guide than a mastery requirement.

In 1937, Hayward and Ordway[23] reported the results of a similar study in which fifteen pre-primers were used. They found a total of 350 different words. As this is 43 less than the Gross study, it would seem to indicate a trend toward simplification of vocabulary load on this level. However, the study also showed that only three words were used in all fifteen books and only eighteen in ten or more books. This indicates the wide range of words introduced at this level.

Curtis,[24] in 1938, tabulated the words from twelve pre-primers and found a grand total of 11,914 running words but only 241 different words. From this list, Curtis made a core vocabulary of 72 words which were repeated 9,047 times in the books he analyzed. These 72 words constituted 75.9% of the number of running words.

In 1941, Stone[25] analyzed twenty pre-primers published from 1931-1940 inclusive. His findings also showed a wide diversity of vocabulary, with 359 different words appearing

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23. Hayward, W. George and Ordway, Nancy M "Vocabularies of Recently Published Preprimers." Elementary School Journal, XXXVII (April, 1937), pp. 608-17

24. Curtis, H. A. "Wide Reading for Beginners." Journal of Educational Research, XXXII (December, 1938), pp. 255-262

25. Stone, C. R. "Vocabularies of Twenty Preprimers." Elementary School Journal, XLI (February, 1941), pp. 423-429

and not one word appearing in all 20 pre-primers; 186 words appear in one book with 54 in only two books and 27 words in only three. He also listed the 100 words found to be most important and presented a study of the comparative difficulty of the pre-primers on the basis of vocabulary load.

Also in 1941, Langston[26] reported an analysis of ten pre-primer reading programs which included twelve pre-primer books in all. His study included books which were not used in either the Gross or the Curtis study. These reading programs were published between 1931 and 1940. He found a grand total of 10,749 words with 306 different words. Taking the 72 most frequently used words from Gross, Curtis and his own study, he found 105 different words in the three combined lists. From this list, 79 words, comprising two-thirds of the total running words of the three studies, were taken as a core vocabulary.

Rudisill,[27] in 1938, reported on a combined study of pre-primers and primers for the purpose of noting an appropriate sequence for the reading of the 26 pre-primers and primers. Her study showed that pre-primers varied in the number of different words presented from 36 to 249 words, while primers varied from 200 to 429 different words.

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26. Langston, R. G. "Core Vocabulary for Preprimer Reading." Elementary School Journal, XLI (June, 1941), pp. 766-773.

27. Rudisill, M. "Selection of Preprimers and Primers - A Vocabulary Analysis, I" Elementary School Journal, XXXVIII (May, 1938), pp. 683-93

She further noted that the variations in the number of words with fewer than four presentations was from 0 to 160 in pre-primers, and from 0 to 184 among primers. The extent to which vocabularies of pre-primers and primers are identical varied from 9 to 100 percent in the case of vocabularies of pre-primers contained in primers, to 3 to 86 percent in the case of vocabularies of primers contained in the different pre-primers. The percent of vocabularies of primers contained in other primers varied from 19 percent to 67 percent. Rudisill concluded that "those pre-primers having the highest percent of the vocabularies in a given primer prepare most economically for the reading of that primer".

While this study shows a continuation of the trend toward minimizing the vocabulary load of individual books, it also shows the wide diversity of words to be found in the various books.

3. On the primer level, one of the earliest and better known studies was that by Selke and Selke[28] published in 1922. In this study, twelve primers were analyzed and 16,636 different words were noted with only 38 words common to all twelve books, while 783 words appeared in only 1 book. The number of different words in the separate books varied from 157 words to 630. In the study previously mentioned by

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28. Selke, Erich, and Selke, G. A. "A Study of the Vocabularies of Beginning Books in Twelve Reading Methods." Elementary School Journal, XXII (June, 1922), pp. 745-49.

Rudisill it should be noted that there is a difference of 201 words in the maximum different words to be found in a given book. This would indicate that the trend toward decreasing the vocabulary load is present at the primer level as well as at the pre-primer. A wide diversity of words continues to be noted on this level, as well as on the pre-primer.

A later study, published in 1930 by Selke[29] included twelve more recent primers than were noted in the first study. In this study, progress was evidenced in the tendency to introduce fewer words in individual books. Ten books had less than 400 different words, while in 1922 only six of the books analyzed had less than that number. Also, the total number of words represented a decrease of 26 percent. However, it was the opinion of the author that too many words appeared only once or with too small a frequency.

In 1931, Harring[30] examined fifteen primers and found 1,260 different words with 538 of them appearing in only one book; 34 words appeared in all fifteen books. This study when compared with the Selke and Selke study shows that while the tendency to decrease the vocabulary load was clearly

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29. Selke, Erich "A Comparative Study of the Vocabulary of Twelve Beginning Books In Reading." Journal of Educational Research, XXII (December, 1930), pp. 369-74.

30. Harring, Sidney "What Primer Shall I Use Next?" Elementary School Journal, XXXII (November, 1931), pp. 207-13.

evident, books were still widely varying in the selection of vocabulary. Harring, however, showed that a teacher could arrange a sequence of primers according to the needs of the pupils by noting in a table the percentage of words used in common among the books investigated.

Hockett & Neeley,[31] in their study of 33 primers in 1936, felt that a teacher should select a supplementary primer on the basis of the number of new words encountered in the second book which were not to be found in the basic book, rather than by Harring's suggestion. For their study, they selected primers published between 1923 and 1935, and found a total of 174,076 running words.

The total number of different words in all 33 primers was 1,713 - of these 681 (40 percent) appeared in only one book - 1,077 (63 percent) appeared in three books or fewer. Only 25 words were common to all 33 books.

They further compared the average repetition in books published before and after 1930 with the following results:

1. Books published after 1930 - showed an average repetition for each word of 19.1 times.
2. Books published before 1930 - showed an average repetition for each word of 17.2.

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31. Hockett, J. A., and Neeley, D. P. "Comparison of the Vocabularies of Thirty-three Primers." Elementary School Journal, XXXVII (December, 1936), pp. 190-202.

In summarizing, the studies on a primer level indicate that there has been a definite trend toward the minimizing of vocabulary load in individual books. The choice of vocabulary, however, continues to vary widely. This would seem to indicate that no definite criteria for vocabulary selection has been agreed upon and that the choice of vocabulary is determined only by the type of story selected. It should further be noted that the basis for selecting supplementary primers has not been agreed upon by the various workers in the field.

4. In the investigation of first readers, Packer,[32] in 1921, reported on an analysis of ten first readers published before 1918. He found 3,541 different words of which 2,048 appeared four times or less with 2,565 occurring less than ten times. This would indicate that the same difficulty of variety of vocabulary found in pre-primers and primers existed also on the first reader level.

In 1937, Hockett and Neeley[33] reported an investigation of 28 first readers published from 1924 to 1930. They found 2,800 different words or four-fifths as many as Packer had

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32. Packer, J. L. "The Vocabularies of Ten First Readers." Report of the Society's Committee on Silent Reading. Twentieth Yearbook of the National Society for the Study of Education, Part II. Bloomington: Public School Publishing Company, 1921. pp. 127-44.

33. Hockett, J. A., and Neeley, N. G. "Vocabularies of Twenty-eight First Readers." Elementary School Journal, XXXVII (January, 1937), pp. 344-352.

reported. The typical reader showed approximately 9,000 words with slightly under 600 different words. Approximately one-half of the words were repeated more than five times. They also pointed out that the more recent books have "significantly smaller vocabularies and increased repetition of words". It was also noted that a greater number of words were to be found in the first 500 words of the Gates list.

5. Since all of the previous studies have indicated the wide variations in choice of vocabulary in readers, interest has been shown in the development of lists of words on various levels which would present only a minimum in vocabulary requirements. Some of these lists have already been mentioned as "core" vocabularies. Further lists are presented below.

In 1934,[34] Durrell developed a graded list of 656 basic words which could be used in the preparation of materials for children with reading disabilities. This list was built from the "Faucett-Maki combination of the Horn and Thorndike lists by taking all words with a rating below 20 and checking them for usage by the Fitzgerald list."

Stone,[35] in 1942, analyzed 107 readers published from

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34. Durrell, Donald D. "A Vocabulary for Corrective Reading." Elementary English Review, XI (April, 1934), pp. 106-9.

35. Stone, C. R. "Vocabulary Based on One Hundred Seven Primary Grade Books." Elementary School Journal, XLII (February, 1942), pp. 452-455

1930-1941. In his study he used:

1. 21 Pre-primers
2. 21 Primers (two primers in one series)
3. 21 First Readers (two first readers in one series)
4. 21 Second Readers
5. 21 Third Readers

From these books he devised a complete graded vocabulary of 2,164 words with levels for each word. He selected also the 100 most important words.

From the evidence brought forth by all these numerous vocabulary studies, it is clear that children in Grade I are presented with a widely diversified range of vocabulary and concepts. It has further been shown that unless children have an adequate meaning vocabulary before they attack the printed page, they cannot derive sufficient comprehension to enable them to effectively progress in the interpretation of the reading materials. It would, therefore, seem that an essential part of the pre-reading program should take into careful consideration an investigation of children's actual experiential background. It has been pointed out that the Kindergarten Union list gives a broad interpretation of vocabulary used by children on the pre-school level. However, since children vary widely in this respect, some basis for determining the actual informational backgrounds of particular groups of children before they begin to read, should

be established.

In this respect, the general contribution to this field should be noted. Sangren,[36] in 1929, reported on a battery of tests which have been published. He built these tests for "the purpose of determining the general quality and range of information of young children". The vocabulary for these tests was taken from the Gates Primary Word List. The total test includes a series of picture tests in which the children identify the picture which corresponds to the verbally given question. The test is divided into six fields of information for the purpose of diagnosis and subsequent remedy:

1. Nature
2. Numbers
3. Vocabulary
4. Social and Civic information
5. Household
6. Language and Literature

Sangren has found that in the use of these tests, there is a "definite relationship between scores obtained and placement and promotion in the early grades". He suggests their use as additional criteria for ability grouping and, as has already been stated, in the general placement and promotion of young children.

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36. Sangren, P. V. "Informational Tests for Young Children." Childhood Education, VI (October, 1929), pp. 70-77.

Hilliard and Troxell[37] made an extensive inventory of the home backgrounds of kindergarten children. They found a wide diversification in the opportunities offered in the homes studied as far as informational facilities for the children were concerned. They indicated that there was a definite necessity for kindergarten teachers to study the backgrounds of children. In following up this study by noting the children's reading progress, they concluded that "children with rich background are more strongly equipped to attack the printed page than children of meager background".

Waters,[38] in an attempt to determine specific pre-reading experience needed by her own 31 kindergarten children, examined 50 primers and first readers available in her community. By tabulating the words according to the type of experience, and noting the number of books using these particular experiences, she then used pictures to question children individually as to their understandings. By this process, it was possible for her to determine exact experiences essential to her group and eliminate those not specifically needed.

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37. Hilliard, G. H. and Troxell, E. "Informational Background as a Factor in Reading Readiness and Reading Progress." Elementary School Journal, (December, 1937), pp. 255-263

38. Waters, Doris "Pre-reading Experience." Education, LIV (January, 1934), pp. 308-312.

A consideration of the previous studies indicates that in the wide range of concepts and experiences presented in Grade I readers, variances in information pertaining to these experiences on the kindergarten level must exist for varying groups.

It will be the purpose of this study -

1. To determine the specialized, or unusual experience words, presented in Grade I books.
2. To build a series of tests which may be presented efficiently to groups of kindergarten children in order to aid in analyzing their needs in preparation for reading.

CHAPTER II

SELECTION OF SPECIALIZED VOCABULARY LIST

In selecting the Grade I readers from which to obtain the list of experience words, effort was made to:

1. Select a wide variety of basic and supplementary readers published from 1931-1941 inclusive.
2. Include in the list a representative sampling of pre-primers, primers and first readers.

The following table shows the distribution of 63 basal and supplementary books. Included in the table also, are the number of books used, with their corresponding levels:

TABLE I

Distribution of 63 Grade I Reading Books According to Number, Level and General Classification.

Distribution of Basic Readers and Supplementary Bks	No. of Books	Distribution of Pre-primers, Primers and First Readers	No. of Books
Basic Series Reading Books	35	Pre-primers	26
		Primers	20
Supplementary Readers	28	First Readers	17
Total	63	Total	63

These books were selected from fifteen publishing companies. Ten basic reading systems were investigated, and of

this number 6 series were examined in total with two or more books investigated from the remaining four series. In the supplementary books, samples were taken from the following classifications:

1. Number books
2. Social studies
3. Safety
4. Health
5. Science stories
6. Regular supplementary material for the basic reading series.

The following includes all the books investigated with their publisher and the series and level indicated:

I. Allyn and Bacon, Boston, Mass.

1. Quinlan Basal Series

a. Winky - Pre-Primer
b. Day by Day - Primer
c. To and Fro - First Reader

II. American Book Company, Boston, Mass.

1. Road to Safety

a. Away we Go - Pre-primer
b. Happy Times - Primer

III. Ginn and Company, Boston, Mass.

1. Progress in Reading

a. Fun with Polly Parrot - Pre-primer
b. We live on a Farm - Primer

2. The Children's Bookshelf

a. Let's Play - Pre-primer
b. Play Days - Primer
c. Munching Peter and other Short Stores Bkl

IV. D. C. Heath and Co., Boston, Mass.

1. Disney Series

a. Here They are - Primer
b. Water Babies Circus and Other Stories - Book I

2. Our Animal Story Books - Pre-primer Level

a. My Dog Laddy
b. Biddy and the Ducks
c. Frisky the Goat
d. Little White Rabbit
e. Peanuts the Pony
f. Hundreds of Turkeys

V. Houghton Mifflin Company, Boston, Mass.

1. Child Development Readers

a. Who Knows - Little Primer
b. Reading for Fun - Primer
c. Finding Friends - Book 1

2. Billy and Frisky Stories - Supplementary material with vocabulary correlated with Primer and First Reader

a. Hallowe'en Fun and Other Stories
b. Billy and Frisky Play School
c. A Home for Turkey Gobbler
d. At work in the Woods

VI. Laidlaw Brothers, New York City, N. Y.

1. Laidlaw Basic Readers

a. Pre-primer
b. Primer
c. Book I

2. The Merton-McCall Readers

a. Bob and Jane - Primer
b. At Work and Play - Book I

VII. The MacMillan Company, Boston, Mass.

1. New Work - Play Series

a. Off We Go - Pre-Primer
b. Now We Go Again - Supplementary Primer

c. Jim and Judy - Primer
d. Down Our Street - First Reader

2. Democrary Readers

a. Let's Take Turns - First Reader

3. New Health and Growth

a. All Through the Day - First Reader

VIII. Newson and Company, New York City, N. Y.

1. Supplementary Reading - Good Companions

a. Helpers - Book I

IX. Row Peterson and Company, New York City, N. Y.

1. The Alice and Jerry Books

a. Happy Days - Readiness Pre-primer
b. Rides and Slides - Basic Pre-primer
c. Here and There - Absorption Pre-primer
d. Day in and Day Out - Basic Primer
e. Round About - First Reader

X. Benjamin H. Sanborn, Chicago, Illinois

1. Fun for You - Primer Level

XI. Scott Foresman and Company, New York City, N. Y.

1. New Basic Readers

a. We Look and See - Pre-primer
b. We Work and Play " "
c. We Come and Go " "
d. Fun with Dick and Jane - Primer
e. Our New Friends - Book I

2. Health Stories

a. Good Times with Our Friends - Primer

3. Number Stories

a. Book I

4. Social Studies

a. Peter's Family - Primer
b. David's Friends at School - Book I

XII. Silver Burdett Company, Boston, Mass.

1. Unit Activity Reading

a. Tom's Trip - Pre-primer
b. Come and Play - "
c. At Home and Away - "
d. In City and Country - First Reader

XIII. L. W. Singer Company, Chicago, Illinois

1. The Scientific Living Series

a. Sunshine and Rain - Pre-primer
b. We see - Pre-primer

XIV. John C. Winston Company, Philadelphia, Pa.

1. Easy Growth in Reading Series

a. Mac and Muff - Pre-primer - Level I
b. At Play - Primer - Level I
c. I Know a Secret - Book I - Level I
d. Good Stories - Book I - Level II

XV. World Book Company, Boston, Mass.

1. Tippett: Henry Series

a. Henry and His Garden - Pre-primer

In the selection of vocabulary, no attempt was made to tabulate every word. Rather, the books were examined for unusual experience words which required a background of information for their understanding by children. Cards were made out for each book, and as each new experience word appeared it was noted. Only the initial appearance of the word was counted, and no tabulation of the frequency with which the words were repeated in a given book was determined. When the total list from all 63 books was completed, the words were then classified into experience or activity groupings, and sub-divided again under the particular phase of the ex-

perience activity.

In all 652 words were selected from the preceding books. The following table shows the numbers of words found in each general experience classification in the order of frequency.

TABLE II

CLASSIFICATION and FREQUENCY of SPECIALIZED GRADE I READING VOC.

Order of Freq.	Classification	Total No. of Words
1.	Nature	167
2.	Farm	96
3.	Home	68
4.	Children's Activities	63
5.	City and Community	53
6.	Transportation	53
7.	Miscell. Nouns, Adj. Adv. and Verbs	49
8.	Food	46
9.	Body Parts	11
10.	Clothes	11
11.	Holidays	10
12.	Circus and Zoo	9
13.	Fairies	6
14.	Money	6
15.	Weight	4
	Total: ..	652

From this table, it is possible to note the classification of experiences from which meaning is expected in the first grade level. In order to note more carefully the exact vocabulary requirements in each of these particular fields, the words have been listed below in their proper sub-division of the total experience along with the frequency with which the words were found to exist in the 63 pre-primers, primers,

and first readers.

TABLE III

Specialized Vocabulary of Experience words obtained from Grade I Reading Books.

(Frequency indicates the number of books in which the word appeared)

Vocabulary List.

..... NATURE .....

BIRDS	F	FISH	F	INSECTS	F	FLOWERS	F	GARDEN	F
bill	3	chug-a-rug (frog)	1	beetle	1	bud	1	clay	1
bird	13	fish (n)	4	bumble bee	8	bulb	1	dig (v.)	2
bluebird	1	fish (v)	2	caterpillar	1	cat-tails	1	garden	9
crow	1	fish food	1	cocoon	1	flowers	8	ground	5
feathers	5	fisherman	1	grasshopper	1	pansy	1	grow (v.)	2
flew (v.)	6	fishing pole	1	lady bug	1	petals	1	plant (v.)	3
fly (v.)	5	frog	6	moth	1	pond lily	1	seeds	6
hawk	1	goldfish	1	spider web	1	pod	1	weeds	1
nest	14	ker-chug (frog)	1	sting	2	sunflower	1		
nightingale	1	shell	1	stung	1				
owl	2	tadpole	2	worms	2				
parrot	3	turtle	7						
squawk-parrot	1								
pigeon	1								
coo - pigeon	1								
robin	7								
cheer-up	1								
swan	1								
spread his tail	1								
tweet	1								
wing	2								
woodpecker	1								

PLANTS & TREES	F	SEASONAL -- Terms	F	LAND	F	WATER	F	SKY AND AIR	F
Apple tree	2	autumn	2	beach	1	brook	3	air	4
bark	1	blow (v.)	5	dust	1	dam	1	clouds	3
branch	1	cold	6	earth	1	lake	1	dipper	1
bush	3	cool	1	field	4	pond	4	fog	2
forest	1	fall	1	hills	1	puddle	1	moon	3
grass	4	freeze	1	hole	7	pool	1	rainbow	1
hallow tree	1	heat	1	land	1	river	4	sky	4
leaf	10	hot	3	living things	1	stream	1	stars	3
log	2	ice	3	meadow	2	water	7	sun	4
lumber	1	icicles	1	mountain	1			sunlight	1
mulberry	1	outdoors	1	rock	3			sunny	1
oak tree	1	snow	11	sand	2			sunshine	1
plant	3	snowball	1	stone	1			weather	1
pole	1	snowflakes	2	world	4			wind	7
boots	1	spring	6						
stem	1	summer	5						
stick	5	warm	4						
tree	11	winter	6						
toadstool	1								
vine	2								
woods	8								

WILD ANIMALS	F	ANIMAL PARTS	F	DIRECTIONS	F	PRODUCTS	F
bear	11	antlers	1	east	1	iron	1
beaver	2	fur	1	north	2	rubber	1
camel	2	horn	2	south	3	tar	1
chipmunk	1	paws	7	west	1		
coon	2	swish-swish (tail)	2				
deer	2						
elephant	6	tail	9				
fox	2	tracks	2				
lion	3						
monkey	9						
skunk	1						
squirrel	9						
sly	1						
tiger	2						
wolf	1						

..... FARM .....

ANIMALS	F	TOOLS	F	EQUIPMENT	F	BUILDINGS	F	FEED	F
animals	12	hoe	2	cart	2	barn	9	catnip	1
bunny	1	rake	3	hay wagon	1	barn yard	2	dried corn	1
calf	2	sack	2	incubator	3	chicken house	2	feed	2
cat	6	spade	1	milking machine	1	dog house	1	grit	1
chick	4	tools	1	pail	2	farm	12	hay	6
chicken	8			saddle	1	shed	3	oats	3
cow	11			scare crow	1	stable	1	wheat	1
dog	11			threshing machine	1	straw pen	2		
duck	11			wagon	4	woodshed	1		
goat	5								
goose	3								
hen	12								
horse	8								
kitten	16								
kitty	1								
lamb	1								
mouse	11								
pig	11								
pony	7								
puppy	9								
rabbit	27								
rat	1								
rooster	6								
sheep	4								
~~turkey~~	~~6~~								

..... FARM ..... (Continued)

NOISES	F	VERBS	F	DIVISIONS	F	ADJECTIVES	F
baa-baa	1	bark	4	orchard	2	spotted	2
bow-wow	13	bite	1	pasture	2	wee	2
cheep (chicks)	1	gallop	1	haycock	1		
cluck	6	growl	2	strawstack	2		
clipperty clap (horses)	1	hatch	1	farmer	4		
cock-a-doodledoo	5	hop	7	dairy	1		
cut-cut	2	milk (cow)	1				
gobble	6	nibble	2				
hiss-sss( )geese	1	plow	2				
hank (	1	scat	1				
hop-hop (babbit)	3	shoo	1				
meow	3	sniff	5				
mew	5	sow	1				
moo	5	waddle	2				
peep-peep	4	wag	2				
quack	6						
trot	2						
whoa	2						

..... HOME .....

FAMILY	F	FURNITURE	F	PARTS OF HOUSE	F
cousin	1	bed	4	bedroom	1
housekeeper	1	bench	2	fence	4
master	1	chair	5	floor	3
Mr.	4	cupboard	1	garage	1
Mrs.	1	feather bed	1	gate	3
twin	2	mirror	1	kitchen	3
uncle	1	shelf	1	playroom	1
wife	2	table	6	porch	2
				roof	4
				shingles	1
				steps	1
				wall	2
				window	7
				yard	6

FURNISHINGS	F	IMPLEMENTS	F	ACTIVITIES	F
bag	1	brush	1	bake	1
barrel	1	bundle	1	clean adj.	3
bedcovers	1	hammer	2	clean (v.)	2
blanket	1	match	1	dust (v.)	2
bottle	1	nails	3	hug (v.)	1
bowl	1	scissors	2	mend (v.)	2
box	1	string	1	scrub (v.)	1
broom	1			stir	1
bucket	2			sweep (v.)	2
candle	3			wash (v.)	2
candlestick	1				
dishes	2				
jug	1				
light (n.)	3				
oven	1				
plate	1				
pot	1				
rug	1				
towel	1				
trunk	4				
tub	1				

..... CHILDREN'S ACTIVITIES ....

PLAY	F	TOYS	F	SCHOOL	F	PET SHOW	F	GAMES	F
build	2	ball	11	blackboard	1	pets	5	game	2
coast	1	balloon	3	school house	3	pet show	1	hide & go seek	1
hut	1	bell	1	school nurse	1	blue ribbon	2	jokes	2
playground	2	blocks	1	paint (n.)	3	first prize	1	riddles	1
play house	1	drum	1	paint brush	1	2nd prize	1	rules	1
play room	2	horn	1	paper	2	prize	2	take turns	2
sand box	2	jump rope	1	pen	1			tricks	3
skip (v.)	1	kite	2	principal	1				
sled	3	music box	1	stand in row	1				
snowman	1	roller skates	1	write (v.)	6				
swim (v.)	6	see-saw	1						
swing (n.)	5	soldiers	1						
		teddy bear	1						
		toy	8						
		whistle	3						
		wooden horse	1						

..... CHILDREN'S ACTIVITIES ..... (Continued)

READING	F	COURTESY	F	NUMBERS	F	PARTIES	F
newspaper	1	polite	1	dozen	1	birthday	4
page	1	thank you	4	fifth	1	picnic	4
				first	2		
				fourth	1		
				hundreds	1		
				pair	1		
				second	2		

.....TRANSPORTATION .....

TRAINS	F	AIRPLANES	F	BOATS	F	CARS	F
all aboard	1	airplane	13	boat	14	automobile	2
baggage	1	airport	3	boat deck	2	bicycle	1
baggage-man	3	goggles	1	light house	1	bus	4
choo-choo	2	hangar	1	sail	1	car	8
chug-chug	1	landing field	1	swan boat	1	gas	2
clickety-clack	1	leather helmet	1			honk (car)	1
conductor	5	parachute	1			motor	1
ding-dong	1	propeller	1			street car	1
dining car	4	whirr-r (plane)	1			tires	2
engine	5					truck	3
engine-puff-ff	1					wheel	2
engineer	3						
fare	1						
freight yard	1						
motor man	2						
pullman	3						
punch v.(ticket)	1						
railroad	1						
round house	1						
station	2						
steam train	2						
switch-engine	1						
ticket	3						
toot-toot	3						
train	16						
train track	2						
whistle	1						
wrecking engine	1						

..... CITY AND COMMUNITY .....

FIRE	F	POLICE	F	MAIL	F	BUILDINGS	F
burn	5	policeman	4	letter	10	barber shop	1
cling-clang	1			mailman	2	bank	2
fire	3			package	1	building	1
fire-engine	3			postman	3	church	2
fire man	2			postmark	1	grocery store	3
fire plug	1			special delivery	1	market	2
hose	1			stamp	1	post office	1
ladder	2					school	2
pumps-whizzz	1					store	10
pumps	1						
siren	1						
siren-(whoo-oo)	1						

WORKERS	F	LOCATION	F	TYPE OF COMMUNITY	F
baker	1	bridge	3	city	10
grocery man	1	church bell	1	town	1
milkman	2	corner	1	neighborhood	1
moving man	1	curb	1	village	1
organ man	1	elevator	1	country	2
people	1	park	5		
toy-mender	1	road	5		
		sidewalk	1		
		street	2		
		street block	1		
		street light	1		
		street sign	5		

..... FOOD .....

VEGETABLES	F	FRUITS	F	OTHER FOODS	F	EATING TIME	F
beans	3	apple	9	bread	3	breakfast	3
cabbage	4	banana	1	butter	2	dinner	5
carrots	3	berries	1	cake	8	lunch	3
corn	5	blackberry	1	candy	4	supper	3
lettuce	2	cocoanut	1	cocoa	1		
peas	2	fruit	5	cooky	2		
pumpkin	4	orange	1	cracker	1		
radish	1			cream	1		
turnip	1			gingerbread	1		
vegetables	6			gingerbread man	1		
				honey	3		
				honeycomb	1		
				ice cream	2		
				lemonade	1		
				meat	1		
				milk	12		
				nuts	5		
				oatmeal	1		
				pie	11		
				peanuts	3		
				popcorn	3		
				rolls	1		
				soup	2		
				sugar	2		
				tea	1		

..... MISCELLANEOUS NOUNS, ADJECTIVES, ADVERBS and VERBS .....

NOUNS	F	ADJ. & ADVERBS	F	VERBS	F	TIME	F
bonfire	1	clever	1	bounce	2	afternoon	2
bump	1	curly	1	bundle up	1	early	1
bunch	1	dead	1	earn	1	minute	1
crack	1	deep	1	howl	1	moonlight	1
creak	1	dizzy	1	pay	1	morning	4
hero	1	jolly	1	pluck	1	night	3
hump	1	pudgy	1	sell	1	o'clock	1
magnet	1	sharp	1	snip wool	1	soon	1
organ	1	shiny	1	spank	1	tomorrow	1
rule	1	splash	1	splash	4	weeks	4
spot	2	wild	1	tiptoe	1	year	2
stripe	1	wise	2	wiggle	5		
tune	1			wind	1		

..... CIRCUS AND ZOO .....

CIRCUS AND ZOO	F
cage	3
circus	5
circus ground	1
circus man	1
clown	3
country fair	2
merry-go-round	1
parade	2
zoo	4

..... CLOTHES .....

CLOTHING	F
buttons	1
coat	1
cotton	1
handkerchief	1
overalls	2
overcoat	1
pocket	2
raincoat	1
sweater	1
umbrella	3
wool	2

..... WEIGHT .....

WEIGHT	F
gallon	1
pounds	1
quart	1
weigh	1

..... FAIRIES .....

FAIRIES	F
fairy	1
king	1
sandman	1
troll	1
wand	1
water babies	1

..... HOLIDAYS .....

HOLIDAYS	F
Christmas	2
Christmas tree	2
Easter	1
Hallowe'en	4
jack-o-lantern	4
jingle bells	1
presents	2
Santa Claus	2
Thanksgiving	1
trim (v.) (tree)	1

..... MONEY .....

MONEY	F
a cent	1
five cents	1
money	5
nickel	1
penny	9
ten cents	1

..... BODY PARTS .....

BODY PARTS	F
bone	1
ears	4
eyes	3
feet	1
hair	1
head	2
knee	1
legs	1
neck	2
nose	7
teeth	2

CHAPTER III

CONSTRUCTION OF THE TESTS OF WORD KNOWLEDGE ON THE KINDERGARTEN LEVEL AND METHOD OF ADMINISTERING TESTS

In order to investigate the experiential backgrounds of children at the pre-reading level on the basis of future Grade I demands in vocabulary comprehension, and to provide a systematic means of noting deficiencies in specific experiences in varying communities of children, a series of picture tests were built.

In determining the type of tests which would best indicate the general background of the children, careful consideration was given to the following objectives:

1. That the tests be of practical value in the ordinary kindergarten situation in effectively determining the various needs of the groups investigated.
2. That the administration of the tests consume a minimum of time; first, because of the limited concentration span of four and five year olds, and second, because their value as diagnostic instruments would be decreased if they were excessively time consuming.
3. That they be highly interesting to the children in order to encourage their best efforts.

With these objectives in mind, the problem of test construction then resolved itself into the following

considerations:

1. Suitability of the tests for group investigation. In order that the tests be effective in all types of kindergartens, it seemed desirable to construct group tests. This, therefore, called for a form of test in which each child could indicate his own knowledge without enlightening his neighbor.

2. Selection of Picture Vocabulary Tests. Picture tests were then selected as the method of determining word knowledge. The tests were constructed so that the child was asked to point to the picture of the orally given word.

3. Adaptation of the vocabulary words into test grouping. The type of picture test first decided upon was a series of scenes typical of the experience under investigation and containing in picture form all the vocabulary words required for that experience. The vocabulary was, therefore, selected for each of fifteen scenes. However, on the completion of the drawings, it was found that such a presentation was unwise for the kindergarten level for the following reasons:

a. In the total scene, each individual item of the test was by necessity so reduced in size, that it would have been debatable whether lack of knowledge of a word was due to ignorance of the meaning on the part of the child, or inability to locate the item in the scene.

b. In order that the scenes be true to life and typical of the experience portrayed, limitations had to be

placed on the number of words which were investigated. Otherwise, the scenes might have been incongruous and illogical.

c. A large number of the vocabulary words did not lend themselves to treatment in scenes and thereby would have been omitted.

It, therefore, seemed advisable to change the majority of the tests to a series of individual pictures. The five scenes which were retained were included only after they had been experimented with by a group of kindergarten children and were found to be clear to the group. They were:

1. Airplane
2. Circus
3. Fire Scene
4. Night
5. Trains

The individual pictures were grouped according to the nature of the total experience, and each test, therefore, pertains to a different subject. Care was taken to see that:

1. The meanings of the words as illustrated corresponded as nearly as possible to the meanings required in the Grade I reading books.
2. That the pictures were sufficiently clear so that if the child was familiar with the word, he would have no difficulty in identifying the picture.

These tests contained as many of the words found in the vocabulary of the previously mentioned readers as was possible. In all, 253 words were tested. More tests were built than will be described in this study.

The following are the 18 tests used in the study with the experience investigated as the title:

1. Airplane
2. Birds
3. Circus
4. City and Country
5. Community Workers, etc.
6. Farm
7. Farm Animals
8. Fire Scene
9. Insects
10. Miscellaneous
11. Nature
12. Nature II
13. Nature III
14. Night
15. Seasons, etc.
16. Trains
17. Transportation
18. Wild Animals

The directions for the administration of each of the 18 tests followed the same method of procedure as given in the appendix and no specific sequence of tests were required. The children were tested in groups of four, divided according to sex, and each child was given a copy of the text.

The children were seated sufficiently far apart to eliminate copying, and each child was instructed to look at his own paper. The directions in the case of each word were, "Point to the picture of the Airplane, etc." repeating these directions for each word. Otherwise, the sentence was repeated as given in the record sheet. No word was repeated unless it was obvious that a child did not hear the word.

A record sheet was made for each test and beside each word was recorded the number of children able to identify the corresponding picture.

These tests were given in three separate kindergartens. Group II and Group III were taken from suburban communities, while Group I was from a rural community.

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The following table shows the number of boys and girls tested in each of the three communities:

TABLE IV

Distribution of Subjects for the Picture Vocabulary Tests

Gr. I	B	G	Tot.	Gr.II	B	G	Tot.	Gr.III	B	G	Tot.
18 tests	16	16	32	18 tests	16	16	32	9 tests	16	16	32
								9 tests	15	16	31

In all, 95 children were tested on 9 of the tests, with 96 children on the remaining 9 tests. The tests were given either by the writer, or by the regular classroom teachers.

While no data was gathered on the mental abilities of the three groups, it is felt that they were fairly representative of the typical kindergarten situation, while the home backgrounds of the three groups were possibly somewhat better than average. It is, however, of interest to note the differences in kindergarten entrance age requirements. In the case of Group I, the age requirement for entrance is 5 years, 0 months; in Group II, 4 years, 10 months; and in Group III, 4 years, 5 months.

The children found the tests interesting, and no difficulties were present in holding the attention of the groups.

The test pictures were printed and are presented in the appendix with a copy of the record sheets for each test.

CHAPTER IV

ANALYSIS OF DATA

Following the administration of the picture vocabulary tests, it was decided to investigate the following features:

1. The difference in word background of experience activities of the three kindergarten groups investigated.
2. An analysis of the particular word difficulties in the eighteen fields tested.
3. To determine the order of difficulty of the 253 words tested.

Table V shows the difference in word background of the boys and girls totalled in the three groups tested. The percent indicates the percent of boys and girls recognizing the words with the averages.

TABLE V

Analysis of Variations in Word Background of three Kindergarten Groups
Combined percentage for Boys and Girls

	GROUP I	GROUP II	GROUP III	AVERAGE
Kindergarten Minimum Age Requirement	5 yrs-0 Mos	4 yrs-10 Mos	4 yrs-5 Mos	
Classifications:	32 Subjects	32 Subjects	*Indicates 31 Subjects Non-Starred 32	95 or 96 Subjects
Transportation	96.16	87.01	78.60	87.26
Community Workers, etc	90.11	84.52	67.55*	80.73
Night	81.87	79.37	79.92*	80.35
Circus	95.70	78.11	61.69*	78.50
Fire Scene	90.34	82.66	54.19*	75.73
Airplanes	83.20	82.42	54.83*	73.48
Farm Animals	87.62	74.30	50.65*	70.86
Seasons	87.97	61.25	57.50	68.91
Nature II	68.26	66.82	59.85	64.98
City and Country	87.27	53.34	52.67	64.43
Trains	82.03	66.40	33.87*	60.77
Nature	78.35	52.88	45.13*	58.79
Miscellaneous	69.79	50.14	47.32	55.78
Birds	58.68	64.90	36.05	53.21
Farm	64.61	51.82	40.89	52.44
Wild Animals	48.61	51.21	29.90*	43.24
Insects	65.00	31.56	25.93	40.83
Nature III	51.28	40.88	27.08	40.08
Average: ..	77.05	64.42	50.20	63.89

In no experience field tested was there complete knowledge of the vocabulary selected. Neither was there any field in which there was total lack of knowledge. The percentages of children who showed an understanding of the words ranged from 96.16 percent as the highest percent in the totals for both boys and girls, to 25.93 percent as the lowest percentage for

total percentages. Group I evinced a better understanding of the vocabulary than Group II on all of the tests with the exception of the two tests on Birds and Wild Animals. The percentile points of differences in which Group I showed themselves superior to Group II ranged from 1.78 to 33.44, while Group II showed only 6.22 percentile points of difference in their favor on the Bird test and 2.60 percentile points on the Wild Animal test. Group I also showed a considerably better understanding of the vocabulary than did Group III on every test. Here, the percentile points of differences ranged from 8.41 to 36.97.

Group II showed relatively better understandings than did Group III on all of the tests except the one on Night. On this test, however, there was only a difference of .55 percentile points. The range of differences in which Group II was superior to Group III in word understanding was from .67 to 32.53.

In Group I, on the test of Wild Animals (48.61 percent) only, did less than 50.00 percent of the children recognize the words tested. The total percents for children understanding the vocabulary ranged from 96.16 percent to 48.61 percent.

In Group II, less than 50.00 percent of the children failed to recognize the words on both the tests of Insects (31.56 percent) and Nature III (40.88 percent). The total percent for children understanding the words ranged from 87.01 percent to 31.56 percent.

In Group III, there were 8 tests in which less than 50.00 percent of the children were able to identify the meanings. They were:

Miscellaneous ..... (47.32%)
Nature ..... (45.13%)
Farm ..... (40.89%)
Birds ..... (36.05%)
Trains ..... (33.87%)
Wild Animals ..... (29.90%)
Nature III ..... (27.08%)
Insects ..... (25.93%)

The most apparent variation in word background of the three kindergartens may be traced to the minimum age requirements of the three kindergartens. In Group I with minimum age requirements of 5 years, the boys and girls, as a total, showed 77.05 percent understanding of the words, while Group III with four years and five months as the minimum age requirement showed but 50.20 percent. Group II with four years and ten months showed 64.42 percent.

Table V-A shows the difference in word background of the boys in the three groups tested. The percent indicates the percent of the boys recognizing the words along with the averages.

TABLE VA

Analysis of Variations in Word Background of three Kindergarten Groups
Combined percent for Boys

	GROUP I	GROUP II	GROUP III	
Kindergarten Minimum Age Requirement	5 yrs-0 Mos	4-yrs-10 Mos	4-yrs 5 Mos	AVERAGE
Classifications:	16 Subjects	16 Subjects	*Indicates 15 Subjects Non-Starred 16	
Transportation	94.71	91.82	83.17	89.90
Community Workers, etc	91.11	84.52	68.77*	81.47
Circus	98.43	78.11	66.67*	81.07
Night	81.25	80.00	78.66*	79.97
Airplanes	92.96	89.84	54.16*	78.99
Fire Scenes	94.31	81.81	53.77*	76.63
Farm Animals	86.57	81.71	49.88*	72.72
Seasons	85.00	61.87	60.94	69.27
City and County	84.82	58.49	54.91	66.07
Nature II	66.34	67.78	63.94	66.02
Trains	88.28	71.48	32.08*	63.95
Nature	77.88	52.88	49.23*	59.99
Birds	61.11	69.71	40.58	57.13
Miscellaneous	65.47	52.38	47.91	55.25
Farm	62.55	51.56	43.22	52.44
Insects	65.00	36.93	29.37	43.77
Wild Animals	47.91	53.13	28.51*	43.18
Nature III	49.63	42.13	29.68	40.48
Average:..	77.42	67.01	51.97	65.46

From this table it can be seen that the group averages for the boys in each of the three kindergarten groups were slightly higher than the averages of the total percentages for both boys and girls, (Table V).

The highest percentage for the boys was 98.43 percent

with the lowest 28.51 percent.

The percentages in Group I ranged from 98.43 percent to 47.91 percent. Group I boys showed a relatively superior understanding of the experiences over Group II on all tests with the exception of the tests on Birds, Nature III, and Wild Animals. The percentile points of difference in which Group II was superior to Group I were:

Birds	8.60
Wild Animals .	6.22
Nature III ...	1.44

These differences, however, were so slight that they have little significance.

Group I evinced better understandings than Group III in all tests with the range of differences from 2.40 to 56.20 percent.

Group II showed percentages ranging from 91.82 percent to 36.93 percent. Their understandings on all tests were relatively superior to Group III with a range of percentile points of difference from .93 to 35.68.

In Group I, there were only two tests in which the percentages obtained were below 50.00%. These tests were Nature III (49.63%) and Wild Animals (47.91%).

In Group II, less than 50.00 percent of the boys failed to understand the vocabulary on Insects (36.93%) and also Nature III (42.13%).

In Group III, there were nine tests in which less than

50.00 percent of the vocabulary was understood. These tests with their corresponding percents were:

Farm Animals	49.88%
Nature	49.23%
Miscellaneous	47.91%
Farm	43.22%
Birds	40.58%
Trains	32.08%
Nature III	29.68%
Insects	29.37%
Wild Animals	28.51%

The high percentage obtained in Group I boys on Airplanes (92.96%), Circus (98.43%), Community Workers, etc. (91.11%), Fire Scene (94.31%) and Transportation (94.71%) indicate a fine understanding of the vocabulary required in these fields. Group II shows a comparable score only on the test of Transportation (91.82%), while Group III was able to reach only 83.17% on the tests of Transportation.

Table V-B shows the difference in word background of the girls in the three groups tested. The percent indicates the percent of the girls recognizing the words along with the average.

TABLE V B

Analysis of Variations in Word Background of three Kindergarten Groups
Combined percent of GIRLS

	GROUP I	GROUP II	GROUP III	
Kindergarten Minimum Age Requirement	5 yrs-0 Mos	4 yrs-10 Mos	4 yrs-5 Mos	AVERAGE
Classifications:	16 Subjects	16 Subjects	16 Subjects	48 Subs.
Transportation	97.59	82.21	74.03	84.61
Night	82.50	78.75	81.25	80.83
Community Workers, etc	89.11	84.52	65.13	79.59
Circus	92.96	78.11	57.03	76.03
Fire Scene	86.36	83.52	55.00	74.96
Farm Animals	88.65	66.89	51.36	68.97
Seasons	90.93	60.62	54.06	68.54
Airplanes	73.43	75.00	55.47	68.10
Nature II.....	70.19	65.86	55.79	63.95
City and Country	89.73	48.17	50.45	62.78
Nature	78.84	52.88	41.34	57.69
Trains	75.77	61.32	35.54	57.54
Miscellaneous	74.10	47.91	46.72	56.24
Farm	66.67	52.08	38.54	52.43
Birds	56.25	60.09	31.25	49.19
Wild Animals	49.30	49.30	31.30	43.30
Nature III	52.87	39.58	24.47	38.97
Insects	65.00	26.25	22.50	37.92
Average	76.68	61.84	48.40	62.31

The average percentages for three groups of girls were found to be lower than either the averages for the total percentages (Table V), or the boys, (Table V-A).

As has been further noted in the tables of totals and in the tables for the boys, Group I showed better understanding of

the required vocabulary than did either Group II or Group III. This is equally true in the case of the girls, although the percentages for girls run quite generally lower than the percentages for the boys.

The highest percentage obtained for girls was 97.59 per cent on the Test of Transportation (Group I) while the highest percent for boys was 98.43 percent on the test of Circus.

The lowest percentage obtained for the girls was 22.50 percent on Insects (Group III) while the lowest percentage for boys was 28.51 percent on Wild Animals (Group III).

The Group I girls showed themselves superior to Group II in all but two tests. These tests were Airplanes and Birds, while on the test of Wild Animals, both groups were equal in ability.

The percentile points of difference in which Group II was superior to Group I on the test of Airplanes was 1.57, and on Birds, 3.84; while the percentile points of difference in which Group I was superior to Group II ranged from 2.84 to 41.56.

Group I was superior to Group III in every field tested with a range of percentile points of difference from 1.25 to 42.50.

Group II showed better backgrounds of information than Group III on all tests with the exception of City and Country,

with 2.28 percentile points of difference, and Night, with 2.50 points of difference. The remainder of the percentages, while higher for Group II, were not widely divergent. The largest differences in percentages were to be found in the test on Birds with 28.84 percentile points of difference, while the smallest difference was to be found on the test designated as Miscellaneous, with a difference of 1.19.

In Group I, less than 50.00 percent of the girls failed to identify words on the test of Wild Animals, (49.30%).

In Group II, less than 50.00 percent of the girls failed to show understandings of five tests as follows:

Wild Animals	49.30%
City and Country	48.17%
Miscellaneous	47.90%
Nature III	39.50%
Insects	26.25%

In Group III, less than 50.00 percent of the girls understood the words in eight of the tests. They were:

Miscellaneous	46.72%
Nature	41.34%
Farm	38.54%
Trains	35.54%
Wild Animals	31.30%
Birds	31.25%
Nature III	24.47%
Insects	22.50%

In comparing the boys and the girls, it can be noted that in Group I there was but slight difference in favor of the boys on the highest, lowest and average percentages.

In Group II, the boys show relatively better understandings in the highest, lowest and average percentages, and while the girls showed percentages of less than 50.00 percent on five tests, the boys showed comparable percentages on only two tests.

In Group III, the boys showed slightly better average scores, but on nine tests, less than 50.00 percent of the boys were able to identify items of the tests, while the girls showed meager understanding on eight of the tests.

In summary, it can be noted that the percentages obtained for the three groups show distinct variations in the number of children cognizant of the experiences. Group I shows relatively superior backgrounds.

As has been previously mentioned, no child was admitted to this kindergarten until he was 5 years, 0 months of age. Group II follows Group I in percentages of children who understood the required words, and this was the group in which the entrance requirements were 4 years, 10 months. Group III comprised the group admitted to kindergarten at the age of 4 years, 5 months, and this group showed considerably poorer backgrounds of information than the other two groups. The implication would seem to be that on the basis of background of information, the younger the group, the more definite is the need for enlarging and enriching the experience. Unless a definite program for experience activities is developed, such a group would be comparatively unprepared for comprehension of Grade I material.

It should also be noted, that for each separate group there were distinct variations to be found in amount of knowledge in the different fields of experience, and in all groups, there was found to be need for further enrichment in the

experience fields tested.

In order to compare the relative order of difficulty of the various tests for each of the three groups, the following table has been included:

TABLE VI

ORDER OF DIFFICULTY FROM EASIEST TO MOST DIFFICULT OF 18 TESTS IN THREE COMMUNITIES

GROUP I	Total % for both boys and girls	GROUP II	Total % for both boys and girls	GROUP III	Total % for both boys and girls
1. Transportation	96.16	1. Transportation	87.01	1. Night	79.92
2. Circus	95.70	2. Community Workers, etc.	84.52	2. Transportation	78.60
3. Fire Scene	90.34	3. Fire Scene	82.66	3. Community Workers, etc.	67.55
4. Community Workers, etc.	90.11	4. Airplanes	82.42	4. Circus	61.69
5. Seasons, etc.	87.97	5. Night	79.37	5. Nature II	59.85
6. Farm Animals	87.62	6. Circus	78.11	6. Seasons, etc.	57.50
7. City and Country	87.27	7. Farm Animals	74.30	7. Airplanes	54.83
8. Airplanes	83.20	8. Nature II	66.82	8. Fire Scene	54.19
9. Trains	82.03	9. Trains	66.40	9. City and Country	52.67
10. Night	81.87	10. Birds	64.90	10. Farm Animals	50.65
11. Nature	78.35	11. Seasons, etc.	61.25	11. Miscellaneous	47.32
12. Miscellaneous	69.79	12. City and Country	53.34	12. Nature	45.13
13. Nature II	68.26	13. Nature	52.88	13. Farm	40.89
14. Insects	65.00	14. Farm	51.82	14. Birds	36.05
15. Farm	64.61	15. Wild Animals	51.21	15. Trains	33.87
16. Birds	58.68	16. Miscellaneous	50.14	16. Wild Animals	29.96
17. Nature III	51.28	17. Nature III	40.88	17. Nature III	27.09
18. Wild Animals	48.61	18. Insects	31.56	18. Insects	25.93

From this table it can be seen that while there were distinct differences among the groups in the percentages, the relative position of the tests in rank order of difficulty

remains approximately the same for each group. In each of the three groups, it can be noted that the test on Transportation, Community Workers and Circus are approximately at the top of the lists, indicating that these three tests were relatively more familiar than any of the other tests, while Insects, Nature III, Wild Animals and Farm tests were among the least familiar and therefore, the most difficult of the tests.

Careful examination of the percentages for each group indicate, however, that while Group I shows excellent backgrounds of information on Transportation (96.16%), Circus, (95.70%), Fire Scene (90.34%) and Community Workers (90.11%), Group II does not show comparable percentages in any tests, nor does Group III show any percentage equal to the highest percentage of Group II. From this table, also, can be noted the particular fields for each group for which enrichment and broadening of experiences are essential.

In order to note the relative difficulty of the vocabulary for each test, Table VII through XXIV have been included. The percents indicate the percentage of boys, girls, and the totals for boys and girls from all groups who understood the meaning of the words. The vocabulary for each test has been arranged according to order of difficulty of the item for the total percents with the least difficult at the top, and the most difficult item at the bottom.

TABLE VII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

1. AIRPLANES 95 Children

Vocabulary	Total %	% Boys	% Girls
Airplane	100.00	100.00	100.00
parachute	89.48	93.33	85.42
airport	87.37	91.49	83.33
landing field	78.95	80.85	77.08
propeller	71.58	82.98	60.42
leather helmet	58.94	68.09	50.00
goggles	52.63	55.32	50.00
hangar	50.53	63.83	37.50

Findings from this test show that with the exception of the last three words, the subjects evinced a relatively good background of information on planes. These three words, leather helmet, goggles, and hangar demand a slightly more technical knowledge which may, in part, explain their difficulty. The boys were somewhat superior in knowledge to the girls with the largest difference in percentile points to be found on the words hangar (26.33), propeller, (22.56) and leather helmet (18.09).

TABLE VIII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

2. BIRDS 96 Children

Vocabulary	Total %	% Boys	% Girls
bird	100.00	100.00	100.00
owl	79.17	81.25	77.08
swan	79.17	79.17	79.17
wing	72.92	79.17	66.67
feathers	71.88	72.92	70.83
parrot	68.75	72.92	64.58
tail	62.50	83.33	41.67
robin	56.25	62.50	50.00
Woodpecker	50.00	52.08	47.92
pigeon	45.83	52.08	39.58
bill	42.71	45.83	39.58
hawk	41.67	45.83	37.50
crow	18.75	18.75	18.75

From both Table VI and this table, it can be noted that information on birds is comparatively limited. Owl, swan, and parrot, possibly because of their more distinctive characteristics were the most familiar of the birds. The children showed that they had little knowledge of the parts of birds, and were also unable to distinguish between birds of similar appearance. This difficulty, quite possibly, was due to the fact that no colors were shown in the prints. The low percentage of recognition on the word crow was, undoubtedly, due to the fact that the picture was not inked in to make it more truly representative of the bird. This should be corrected in revision of the tests.

The boys showed somewhat superior ability in their knowledge of birds on all but three words. The differences range from 2.09 percentile points to 12.50. The percents on

on the remaining three words were equal.

TABLE IX

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

3. CIRCUS 95 Children

Vocabulary	Total %	% Boys	% Girls
cage	87.37	87.23	87.50
circus man	86.32	91.49	81.25
ice cream	85.26	85.11	85.42
merry-go-round	85.26	82.98	87.50
clown	82.11	82.98	81.25
lemonade	73.68	74.47	72.92
circus ground	68.42	76.60	60.42
What is this a picture of?	61.05	70.21	58.08

On this test, the vocabulary seemed relatively familiar, which would seem to be accounted for by actual experiences of the children with the circus. However, the circus in this area is usually held indoors, which may account for the response on the last question. They varied from "this is a picture of the zoo", and "this is a picture of a fair", to total ignorance of the scene depicted. The boys, on the test, showed only slightly more knowledge of the subject than the girls. Only on five words did they evince better background with greatest differences to be found on the words circus ground, circus man, and the type of scene.

TABLE X

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

4. CITY and COUNTRY 96 Children

Vocabulary	Total %	% Boys	% Girls
street	94.79	93.75	95.83
road	93.75	93.75	93.75
sidewalk	87.50	85.42	89.58
corner	79.17	85.42	72.92
city	76.04	81.25	70.83
milking machine	72.92	81.25	64.58
farm	70.83	81.25	60.42
barn yard	66.67	68.75	64.58
hills	54.17	47.92	60.42
country	53.13	58.33	47.92
street sign	50.00	50.00	50.00
curb	39.58	35.42	43.75
park	32.29	31.25	33.33
incubator	31.25	31.25	31.25

The percentages on this table indicate that the group were somewhat more familiar with the city than with the country, due, undoubtedly, to the location of the communities from which subjects were taken.

The difficulties found in the words street sign, curb and park were due to confusions. Street sign was confused with street light, curb with a curve in the street. The word, incubator, was found to be a comparatively unfamiliar word in all groups.

Both boys and girls showed equal understanding on three words. Girls showed superior ability on four words, with the largest difference noted in the word, hills (12.50 percentile points) with a range of from 10.50 to 2.08 percentile points. The six words on which boys showed superior understandings had wider differences in percentile points ranging from 20.83

to 2.08, with the largest differences found on the words farm (20.83 percentile points), milking machine (16.67 percentile points), city (10.45) and country (10.41). From these last two words, it can be perceived that the boys were more cognizant of the differences between city and country than were the girls.

TABLE XI

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

5. COMMUNITY WORKERS, etc. 95 Children

Vocabulary	Total %	% Boys	% Girls
mailman	95.79	100.00	91.67
nurse	95.79	97.87	93.75
policeman	93.68	93.62	93.75
postman	92.63	91.49	93.75
milkman	89.48	87.23	91.67
monkey	88.42	93.63	83.33
music box	88.42	89.36	87.50
organ man	84.21	91.49	77.08
paint	81.05	80.85	81.25
street light	81.05	85.11	77.08
bundle	78.95	74.47	83.33
organ	78.95	82.98	75.00
Point to something that plays a tune	75.79	72.34	79.17
farmer	72.63	82.98	62.50
toy mender	71.58	68.09	75.00
moving man	70.53	68.09	72.92
grocery man	64.21	70.21	58.33
coat	61.70	72.92	67.37
weigh	51.58	61.70	41.67

The totals for both boys and girls show that while the children were definitely cognizant of the postman (mailman) nurse, policeman and milkman, they had less experience with the farmer, the moving man and the grocery man, the latter being the least familiar of the group. This fact, together with

the figures on children's understanding of money, as shown on Table XVI, would seem to indicate that further enrichment of a store as a unit of experience was needed.

When comparing the total percentage obtained for the word monkey with the percentages obtained for other wild animals (Table XXIV) it can be noted that monkey is the most familiar of all wild animals.

It is of interest to note that while 88.40% of the children could locate music box, only 78.95 of them were aware that it could also be called an organ and only 75.79% could identify that it played a tune.

On the word weigh, additional clues were needed to explain the term. In revision, the word should be put into a sentence, as "Point to something you are weighed on."

Coat caused difficulty, possibly because the children picture a coat as outdoor wear.

The boys showed slightly better understanding than did the girls on eleven words, with the percentile differences ranging from 4.12 to 20.48. The difference of 20.48 points was to be found on the word farmer, which shows that here also, the boys show a slight superiority on farm terms.

The girls showed only minor superiority on 7 words, with differences ranging from .40 to 8.86.

TABLE XII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

6. FARM 96 Children

Vocabulary	Total %	% Boys	% Girls
wagon	100.00	100.00	100.00
dog house	94.79	93.75	95.83
barn	89.58	93.75	85.42
hay wagon	80.21	77.08	83.33
chicken house	63.54	66.67	60.42
strawstack	56.25	47.92	64.58
haycock	38.54	33.33	43.75
orchard	27.09	27.09	27.09
shed	25.00	25.00	25.00
pasture	23.97	27.09	20.83
stable	15.63	16.67	14.58
wood shed	14.58	20.83	8.33

Percentages obtained on this test were, except in the cases of wagon, dog house, barn, hay wagon and chicken house, extremely low.

This would indicate that on the more technical terminology of farm life, the subjects showed inadequate experiential background. Further evidence has been shown on Table X.

The percentages for the boys were only slightly higher on six of the words than the girls. Differences ranged from 2.09 to 12.50 in percentile points. Percentages for the girls were higher for three words with somewhat larger differences noted. They ranged from 2.08 to 16.66.

TABLE XIII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

7. FARM ANIMALS 95 Children

Vocabulary	Total %	% Boys	% Girls
horse	92.63	93.63	91.67
rabbit	89.48	87.23	91.67
cow	88.42	91.49	85.42
Find the one that gives milk	87.37	85.11	89.58
" " " " barks	86.32	87.23	85.42
bunny	85.26	78.73	91.67
rat	84.21	85.11	83.33
pig	80.00	82.98	77.08
horns	76.84	85.11	68.75
turkey	76.84	82.89	70.83
kitten	75.79	78.73	72.90
Find the one that gallops.	73.68	76.60	70.83
rooster	73.68	72.34	75.00
dog	71.58	76.60	66.67
goat	70.53	78.73	62.50
lamb	70.53	70.21	70.83
sheep	69.47	65.96	72.92
cat	66.32	61.70	70.83
calf	65.26	70.21	61.42
Find the one that hops.	63.16	70.21	56.25
duck	61.05	57.44	64.58
hen	60.00	59.57	60.42
Find the one that lays eggs.	57.89	63.83	52.08
chick	52.63	51.06	54.17
goose	49.47	44.68	54.17
chicken	47.37	51.06	43.75
Find the one that waddles.	43.16	46.81	39.58

This test was found to be the most difficult during the administering of the tests, first, because of the large number of words questioned, and second, because the page contained so many pictures that it required considerable concentration. In revision, it would be well to divide this page into two tests. The difficulty found in the words cat and kitten can be ascribed to an inability to differentiate between the two words in terms of meaning. The same difficulty

was noted in the words hen, rooster, chicken and chick. This was further noted in duck and goose. The children were unable to discriminate between the terms.

It is difficult to explain the percentages obtained for the words dog and "Point to something that barks." It may be explained in part by:

1. The picture was not sufficiently clear or the type of dog was not familiar to the children.
2. The appearance of "Point to something that barks" at the end of the list of vocabulary for the test had given the children sufficient time to locate the dog.

In general, however, the children were more familiar with the name of the animal than with the activity of the animal. On the whole, the subjects were comparatively unfamiliar with farm animals.

The boys showed slightly higher percentages than the girls on 16 of the vocabulary words, with the highest percentile points of difference in the words horns (16.36) and goat (16.23). The range was from 16.36 to 1.96 in percentile points. The differences in favor of the girls ranged from 12.94 - .85 with the largest difference found on the word bunny.

TABLE XIV

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

8. FIRE SCENE . 95 Children

Vocabulary	Total %	% Boys	% Girls
fire-engine	100.00	100.00	100.00
hose	97.89	97.89	97.92
tires	97.89	97.87	97.92
fireman	96.84	95.74	97.92
ladder	96.84	100.00	93.75
wheels	96.84	95.74	97.92
Point to something that is burning	94.74	89.36	100.00
fire	89.48	89.36	89.58
fireplug	60.00	61.70	58.33
motor	47.37	57.44	37.50
siren	29.47	31.91	27.09

With the exception of the last three items, the percentages were extremely high in the test. Those items which called for a more technical knowledge showed the percentile points of difference in favor of the boys with all except one of the remaining items showing higher percentages in favor of the girls.

TABLE XV

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

9. INSECTS 96 Children

Vocabulary	Total %	% Boys	% Girls
worm	67.71	75.00	60.42
caterpillar	57.29	58.33	56.25
grass hopper	52.08	54.17	50.00
spider web	50.00	54.17	45.83
bumble bee	42.71	41.67	43.75
lady bug	40.63	45.83	35.42
moth	28.13	27.09	29.17
Point to the insect that stings	25.00	33.33	37.50
beetle	23.97	31.25	16.67
cocoon	10.42	16.67	4.17

From the figures on this table, it can be seen that the children showed a limited experiential background of the subject of insects. Confusions were noted between such words as worm and caterpillar and lady bug and beetle. It is of interest to note that while 42.71 percent of the children could identify bumble bee, only 25.00 percent were aware that it is the bee that stings.

TABLE XVI

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

10. MISCELLANEOUS 96 Children

Vocabulary	Total %	% Boys	% Girls
money	91.67	89.58	93.75
package	91.67	89.58	93.75
letter	85.42	79.17	91.67
Point to something that grows.	84.37	83.33	85.42
newspaper	83.33	81.25	85.42
bonfire	80.21	81.25	79.17
nickel	73.96	75.00	72.92
pansy	71.88	64.58	79.17
seeds	70.83	77.08	64.58
weeds	70.83	77.08	64.58
penny	68.75	75.00	62.50
page	61.46	58.33	64.58
five cents	57.29	58.33	56.25
stamp	53.13	50.00	56.25
ten cents	42.71	39.58	45.83
a cent	30.21	22.92	37.50
postmark	29.17	22.92	35.42
north	9.38	6.25	12.50
south	6.25	2.08	10.42
west	5.21	6.25	4.17
east	3.13	.00	6.25

Although 91.67 percent of the children were able to identify money, relatively few children evinced understanding of the value of the particular pieces of money, with nickel (73.96%) being the most familiar of the three pieces. It should be noted that while postman (Table XI) letter and package, was found to be recognized by the majority of subjects, stamp and postmark were comparatively unfamiliar.

The directions, north, east, south and west, were exceptionally difficult items, first because they required recognition of the picture in which they existed, and second because they then required familiarity with the letters standing

for each word.

The girls showed only slightly higher percentages on thirteen of the 21 items.

TABLE XVII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

II. Nature 96 Children

Vocabulary	Total %	% Boys	% Girls
squirrel	88.42	85.11	91.67
fish	86.32	82.98	89.58
turtle	81.05	87.23	75.00
frog	80.00	78.73	81.25
nest	80.00	87.23	72.92
shell	64.21	70.21	58.33
hollow tree	63.16	61.70	64.58
pond lily	50.53	44.68	56.25
goldfish	46.32	53.19	39.58
toadstool	44.21	42.55	45.83
bark	31.58	44.68	22.92
cat-tails	30.53	29.78	31.25
tadpole	17.89	14.89	20.83

The items on this test proved relatively difficult for both boys and girls. While differences in percentile points show that the girls had better understandings on more items, the differences in percentile points were in favor of the boys.

While frog was recognized by 80.00 percent of the children, tadpole was familiar to only 17.89 percent. Cat-tails (30.53%) were not familiar, yet pond lily was known by 50.53 percent.

TABLE XVIII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

12. NATURE II 96 Children

Vocabulary	Total %-	% Boys	% Girls
tree	98.96	97.92	100.00
flower	96.88	95.83	97.92
grass	95.83	95.83	95.83
ground	95.83	95.83	95.83
branch	82.29	93.75	70.83
leaf	79.17	81.25	77.08
plant	70.83	72.92	68.75
bulb	56.25	58.33	54.17
bush	45.83	43.75	47.92
stem	36.46	35.42	37.50
roots	35.42	41.67	29.17
bud	33.33	37.50	29.17
petals	17.71	8.33	27.09

While the percentages for tree, flowers, grass and ground were considerably high, the remainder of the items which required a more extensive knowledge of plant life were not well known by either the boys or the girls.

TABLE XIX

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

13. NATURE III 96 Children

Vocabulary	Total %	% Boys	% Girls
woods	84.37	89.58	79.17
forest	60.42	62.50	58.33
rainbow	59.38	62.50	56.25
mountain	57.29	54.17	62.42
pool	55.21	45.83	64.58
rock	50.00	58.33	41.67
earth	43.70	50.00	37.50
pond	38.54	33.33	43.75
meadow	30.21	25.00	35.42
lake	30.21	31.25	29.17
river	30.21	37.50	22.92
brook	29.17	31.25	27.09

This test involved the most difficult vocabulary of all the NATURE tests. Relatively few children were able to differentiate between river, pond, lake, brook and pool. Meadow had no meaning at all for the large proportion of the children, with only 30.21 percent of the children able to identify it. It should be noted further, that while 84.37 percent of the children could identify woods, only 60.42 were aware that forest was a synonomous term.

The percentages for the boys ran somewhat higher than for the girls on 8 of the vocabulary words, with the range of difference running from 2.08 percentile points to 16.66. The girls showed better understanding on four words with percentile points of difference from 8.25 to 18.75.

TABLE XX

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

14. NIGHT 95 Children

Vocabulary	Total %	% Boys	% Girls
sky	100.00	100.00	100.00
stars	100.00	100.00	100.00
moon	98.95	97.87	100.00
water	98.95	100.00	97.92
dipper	4.21	2.13	6.25

The table for this test indicates that all the items with the exception of dipper were so well known by both boys and girls as to make them unnecessary as far as testing is concerned. The word dipper was found to be the second most difficult item on all of the tests. The boys and girls were comparatively equal in understanding these words.

TABLE XXI

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

15. SEASONS, ETC. 96 Children

Vocabulary	Total %	% Boys	% Girls
snowman	100.00	100.00	100.00
snowball	92.71	93.75	91.67
snow	90.63	89.58	91.67
fisherman	89.58	93.75	85.42
icicles	89.58	91.67	87.50
winter	89.58	95.83	83.33
ice	88.54	87.50	89.58
outdoors	88.54	95.83	81.25
fishing pole	84.37	85.42	83.33
scarecrow	71.88	66.67	77.08
playhouse	70.83	68.75	72.92
Find the picture that shows that it is cold.	67.71	72.92	62.50
Find the picture that shows that it is warm.	65.63	62.50	68.75
pole	62.50	62.50	62.50
hut	59.83	62.50	56.25
spring	50.00	50.00	50.00
summer	39.58	33.33	45.83
snowflakes	30.21	22.92	37.50
autumn	28.13	29.17	27.09
fall	18.75	20.83	16.67

From this table it can be seen that the winter season is the most familiar of all the seasons. Children had difficulty distinguishing between summer and spring, which may in part, explain the low percentage found in these words. Neither autumn nor fall were clearly distinguishable to the children.

The difficulty found in snowflakes was due to the lack of knowledge of the shapes of individual magnified snowflakes.

Playhouse, was a more familiar term than hut, Fishing pole was identified by 84.37 percent of the subjects, while pole was identified by only 62.50 percent.

Percentages for the boys were somewhat higher than those for the girls on the majority of the items.

TABLE XXII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

16. TRAINS 95 Children

Vocabulary	Total %	% Boys	% Girls
train	100.00	100.00	100.00
train track	96.84	95.74	97.92
conductor	75.79	76.60	75.00
railroad	71.58	74.47	68.75
station	70.53	65.96	75.00
baggage	69.47	68.09	70.83
round house	65.26	70.21	60.42
steam engine	63.16	68.09	58.33
wrecking engine	55.79	61.70	50.00
freight yard	54.74	59.57	50.00
freight engine	52.63	72.34	33.33
baggage-man	49.47	48.72	50.00
dining car	47.37	46.81	47.92
switch engine	36.84	42.55	31.25
engineer	34.74	40.43	29.17
pullman car	32.63	42.55	22.92

The vocabulary to be found in this test was of a highly technical nature, and only train and train track could be considered well known by all children. The remainder of the words show a sharp dropping off in the percentages of children who understood the terms. While the percentile points of difference favored the boys, the total scores in both cases were so low that these differences are of little significance.

TABLE XXIII

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

17. TRANSPORTATION,ETC. 96 Children

Vocabulary	Total %	% Boys	% Girls
bicycle	100.00	100.00	100.00
boat	100.00	100.00	100.00
automobile	96.88	100.00	93.75
bus	94.79	100.00	89.58
car	93.75	95.83	91.67
streetcar	91.67	93.75	89.58
truck	91.67	91.67	91.67
Point to something that uses gas.	84.37	87.50	81.25
lighthouse	81.25	89.58	72.92
clouds	80.21	81.25	79.17
sail	77.08	79.17	75.00
land	71.88	77.08	66.67
swanboat	70.83	72.92	68.75

The items on the Transportation test caused relatively little difficulty for the majority of children. All modes of travel were familiar, although somewhat fewer children could identify the use of gas. Swanboat, the most difficult word on the test, is a word peculiar to the locality in which the tests were given, and would probably be less readily identified in groups from other parts of the country.

Percentages for the boys were slightly higher on all but three items of the test.

TABLE XXIV

ANALYSIS OF WORD DIFFICULTIES - POOLED PUPILS

18. WILD ANIMALS 95 Children

Vocabulary	Total %	% Boys	% Girls
elephant	87.37	85.11	89.58
camel	73.68	74.47	72.92
fur	73.68	70.21	77.08
deer	70.53	70.21	70.83
tail	68.42	70.21	66.67
tiger	55.79	57.44	54.17
lion	53.69	55.31	52.08
beaver	46.32	57.44	35.42
fox	37.89	31.91	43.75
paw	36.84	27.66	45.83
skunk	34.74	31.91	37.50
chipmunk	33.68	29.79	37.50
bear	26.32	31.91	20.83
Where are these animals kept in this country?	22.11	23.40	20.83
Point to the animal that builds a dam.	18.95	19.15	18.75
coon	16.84	19.15	14.58
tracks	12.63	14.89	10.42
antlers	11.58	12.77	10.42

With the exception of monkey, elephant, camel and deer, wild animals, and animal parts were not sufficiently well known by the majority of the children.

Lion and tiger were confused as were skunk and chipmunk. While 46.32 percent of the children knew a beaver, only 22.11 percent could identify that they build dams.

70.53 percent of the children could find deer but only 11.58 percent knew that they had antlers. The boys continued to show a slight margin of superiority in comprehension of vocabulary with a range of differences of from .40 percentile points to 22.02, the largest difference being found on the

word beaver.

Table XXV shows the 253 vocabulary words which were used in the picture vocabulary tests listed in order of their difficulty, with the percent of children who were cognizant of the term indicated beside the word.

TABLE XXV

ORDER OF DIFFICULTY OF 253 TESTED VOCABULARY WORDS.

(Order proceeds from best known words to least known.)

airplane	100.00	postman	92.63	gas	84.37
bicycle	100.00	money	91.67	grow	84.37
bird	100.00	package	91.67	woods	84.37
boat	100.00	street car	91.67	organ man	84.21
fire engine	100.00	truck	91.67	rat	84.21
sky	100.00	snow	90.63	newspaper	83.33
snowman	100.00	barn	89.58	branch	82.29
stars	100.00	fisherman	89.58	clown	82.11
train	100.00	icicles	89.58	lighthouse	81.25
wagon	100.00	winter	89.58	paint	81.05
tree	98.96	fire	89.48	street light	81.05
moon	98.95	milk man	89.48	turtle	81.05
water	98.95	parachute	89.48	bonfire	80.21
hose	97.89	rabbit	89.48	clouds	80.21
tires	97.89	ice	88.54	hay wagon	80.21
automobile	96.88	outdoors	88.54	frog	80.00
flower	96.88	cow	88.42	nest	80.00
fireman	96.84	monkey	88.42	pig	80.00
ladder	96.84	music box	88.42	corner	79.17
train track	96.84	squirrel	88.42	leaf	79.17
wheels	96.84	side walk	87.50	owl	79.17
grass	95.83	airport	87.37	swan	79.17
ground	95.83	cage	87.37	bundle	78.95
mail man	95.79	elephant	87.37	landing field	78.95
nurse	95.79	milk	87.37	organ	78.95
bus	94.79	barks	86.32	sail	77.08
dog house	94.79	circus man	86.32	horns	76.84
burning	94.74	fish	86.32	turkey	76.84
street	94.74	letter	85.42	city	76.04
car	93.75	bunny	85.26	conductor	75.79
road	93.75	ice cream	85.26	kitten	75.79
policeman	93.68	merry-go		tune	75.79
snowball	92.71	round	85.26	nickel	73.96
horse	92.63	fishing pole	84.37	camel	73.68

fur	73.68	circus	61.05	ten cents	42.71
gallops	73.68	duck	61.05	hawk	41.67
lemonade	73.68	forest	60.42	lady bug	40.63
rooster	73.68	fire plug	60.00	curb	39.58
milking		hen	60.00	summer	39.58
machine	72.92	hut	59.83	haycock	38.54
wing	72.92	rainbow	59.38	pond	38.54
farmer	72.63	leather		fox	37.89
feathers	71.88	helmet	58.94	paw	36.84
land	71.88	lay eggs	57.89	switch engine	36.84
pansy	71.88	caterpillar	57.29	stem	36.46
scarecrow	71.88	five cents	57.29	roots	35.42
dog	71.58	mountain	57.29	engineer	34.74
propeller	71.58	bulb	56.25	skunk	34.74
railroad	71.58	robin	56.25	chipmunk	33.68
toy-mender	71.58	strawstack	56.25	bud	33.33
farm	70.83	tiger	55.79	pullman car	32.63
playhouse	70.83	wrecking		park	32.29
plants	70.83	engine	55.79	bark (tree)	31.58
swanboat	70.83	pool	55.21	incubator	31.25
seeds	70.83	freight yard	54.74	cat-tails	30.53
weeds	70.83	hills	54.17	a cent	30.21
deer	70.53	lion	53.69	lake	30.21
goat	70.53	country	53.13	meadow	30.21
lamb	70.53	stamp	53.13	river	30.21
moving man	70.53	chick	52.63	snow flakes	30.21
station	70.53	freight		siren	29.47
baggage	69.47	engine	52.63	brook	29.17
sheep	69.47	goggles	52.63	postmark	29.17
parrot	68.75	grasshopper	52.08	autumn	28.13
penny	68.75	weigh	51.58	moth	28.13
circus		hangar	50.53	orchard	27.09
ground	68.42	pond lily	50.53	bear	26.32
animal tail	68.42	rock	50.00	shed	25.00
cold	67.71	spider web	50.00	sting	25.00
worm	67.71	spring	50.00	beetle	23.97
barnyard	66.67	street sign	50.00	pasture	23.97
cat	66.32	woodpecker	50.00	zoo	22.11
warm	65.63	baggage man	49.47	dam	18.95
calf	65.26	goose	49.47	fall	18.75
roundhouse	65.26	chicken	47.37	crow	18.75
grocery man	64.21	dining car	47.37	tadpole	17.89
shell	64.21	motor	47.37	petals	17.71
chicken		beaver	46.32	coon	16.84
house	63.54	gold fish	46.32	stable	15.63
hollow tree	63.16	bush	45.83	woodshed	14.58
hops	63.16	pigeon	45.83	tracks	12.63
steam engine	63.16	toadstool	44.21	antlers	11.58
pole	62.50	earth	43.70	cocoon	10.42
bird tail	62.50	waddle	43.16	north	9.38
coat	61.70	bill	42.71	south	6.25
page	61.46	bumble bee	42.71	west	5.21
				dipper	4.21
				east	3.13

From this table, it can be noted that a number of the vocabulary words tested proved to be so well-known, that the necessity for including them in a revision of the tests is eliminated. The following are the tests which could be shortened in revision:

1. Transportation (Test 17). In this test, bicycle and boat, both of which were known by 100.00 percent of the children could well be omitted.
2. Night (Test 14). This test showed that 100.00 percent of the children understood the terms sky and stars, while moon and water were recognized by 98.95 percent of the children. This would indicate that this test could be eliminated entirely and the word dipper could be placed in another test.
3. From the Airplane (Test 1) the word airplane (100.00%) could be eliminated.
4. From the Fire Scene (Test 8) fire engine (100.00%) showed such a high degree of word knowledge on the part of the children as to make it useless as a test item.
5. Wagon (100.00%) in the Farm test, (Test 6), could be omitted from the revision.
6. The word Bird on the Bird test (Test 2) and Train on the Train test (Test 16), could be

eliminated.

7. Although snow-man also was known by 100.00 percent of the children, it is not recommended that it be omitted, because of the fact that it was tested in a region where all children are familiar with the word. In another community of different climate, such a word might be found to need enrichment.

CHAPTER V

SUMMARY AND CONCLUSIONS

It was the purpose of this study:

1. To investigate Grade I reading books for a vocabulary list of unusual words which required a background of understanding on the part of the children for comprehension of Grade I reading material.
2. To organize this list into experience fields and build a series of tests for the purpose of determining the relative knowledge of children at the pre-reading level in each of these fields.
3. To test kindergarten children in varying communities to discover differences in background knowledge of the selected vocabulary list.

With this information it becomes possible to determine the particular fields of activities which require further enrichment for preparation for Grade I reading books.

The investigation revealed that:

1. There were 652 unusual words found in 63 first grade textbooks published between 1931 and 1941 for which experiential background was required.

2. These words were included in 15 experience classifications and are noted in Table II page 25.
3. From this list, 253 words were selected as representative of the total list, and were used as a basis for the picture vocabulary tests.
4. The tests were administered to three kindergarten groups in separate communities, two of which were urban and one of which was rural.

As a result of these tests, the following conclusions may be drawn:

1. A definite relationship was found to exist between the experiential background of the kindergarten children tested and the minimum age requirements for admission to kindergarten. Those children entering kindergartens at 5 years, 0 months, showed better understanding of the tests and had a larger word meaning vocabulary than those entering at 4 years, 10 mos., and a far superior understanding of the selected vocabulary than those entering at 4 years, 5 months.
2. No essential differences in word knowledge were found to exist between the urban and rural communities tested, as is indicated on

Table VI, page 64.

3. There was but little difference in the word knowledge background of the boys and the girls, with only slightly higher percentages in favor of the boys in practically all fields.

4. The particular experience fields in which inadequate knowledge was made evident by the picture vocabulary tests are as follows:

	Total Average Percentages
1. Nature III	40.08%
2. Insects	40.83%
3. Wild Animals	43.24%
4. Farm	52.44%
5. Birds	53.21%
6. Miscellaneous	55.78%
7. Nature	58.79%

These low percentages made it evident that for all groups tested, special enrichment programs are essential in these fields.

5. It should be further noted that in none of the experience fields was a complete understanding of the word vocabularies evident. The following include the fields in which the highest percentages of word knowledge were noted:

	Total Average Percentages
1. Transportation	87.26%
2. Community Workers, etc.	80.73%
3. Night	80.35%
4. Circus	78.50%
5. Fire Scene	75.73%

Percentages in these fields are not, however, sufficiently high to preclude further enrichment.

6. Particular word difficulties may be noted on the special classification list of Tables VII through XXV in the order of their relative difficulty.

CHAPTER VI

IMPLICATIONS FOR TEACHING AND FURTHER RESEARCH

The following are suggestions for further research:

1. That the revisions of the tests which have been previously suggested be completed.
2. That the tests be administered in widely diversified communities throughout the country to note differences in word meaning background relative to the type of community.
3. That a study be made in which the groups are divided according to sex, mental ability, and chronological age, so that differences may be noted and compared.
4. That the additional tests shown in the Appendix, but not used in the study, be given, and tabulated according to suggestion 2 and 3. These tests include the following experience fields:

		Number of Words
1.	Fairies	7
2.	Fruits and Vegetables ..	17
3.	House	15
4.	Home Utensils	22
5.	Home Utensils II	19
6.	Parties	8
7.	Personal Belongings	20
8.	Toy Equipment	15
9.	Toys	15
	Total:	138

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APPENDIX

DIRECTIONS FOR WORD KNOWLEDGE TEST

WRITE NUMBER OF CHILDREN POINTING TO CORRECT PICTURE.

1. Use groups of four.
2. Divide according to sex.
3. Use equal number of boys and girls.
4. Do not give credit for obvious copying when children point. Give credit when doubtful.
5. Discriminate carefully between such words as:

   cat - kitten

   duck - goose

GENERAL PROCEDURE

1. Seat children in a group away from the remainder of the class.
2. Be sure children are seated sufficiently far apart to prevent copying.
3. Place a picture in front of each child.
4. Caution children to look at their own paper, only.
5. Say: "Point to the picture of the airplane, etc."
6. Repeat for each picture.
7. Otherwise repeat sentence as given on record sheet.
8. Say each word only once, unless it is obvious child did not hear.

..... AIRPLANES .....

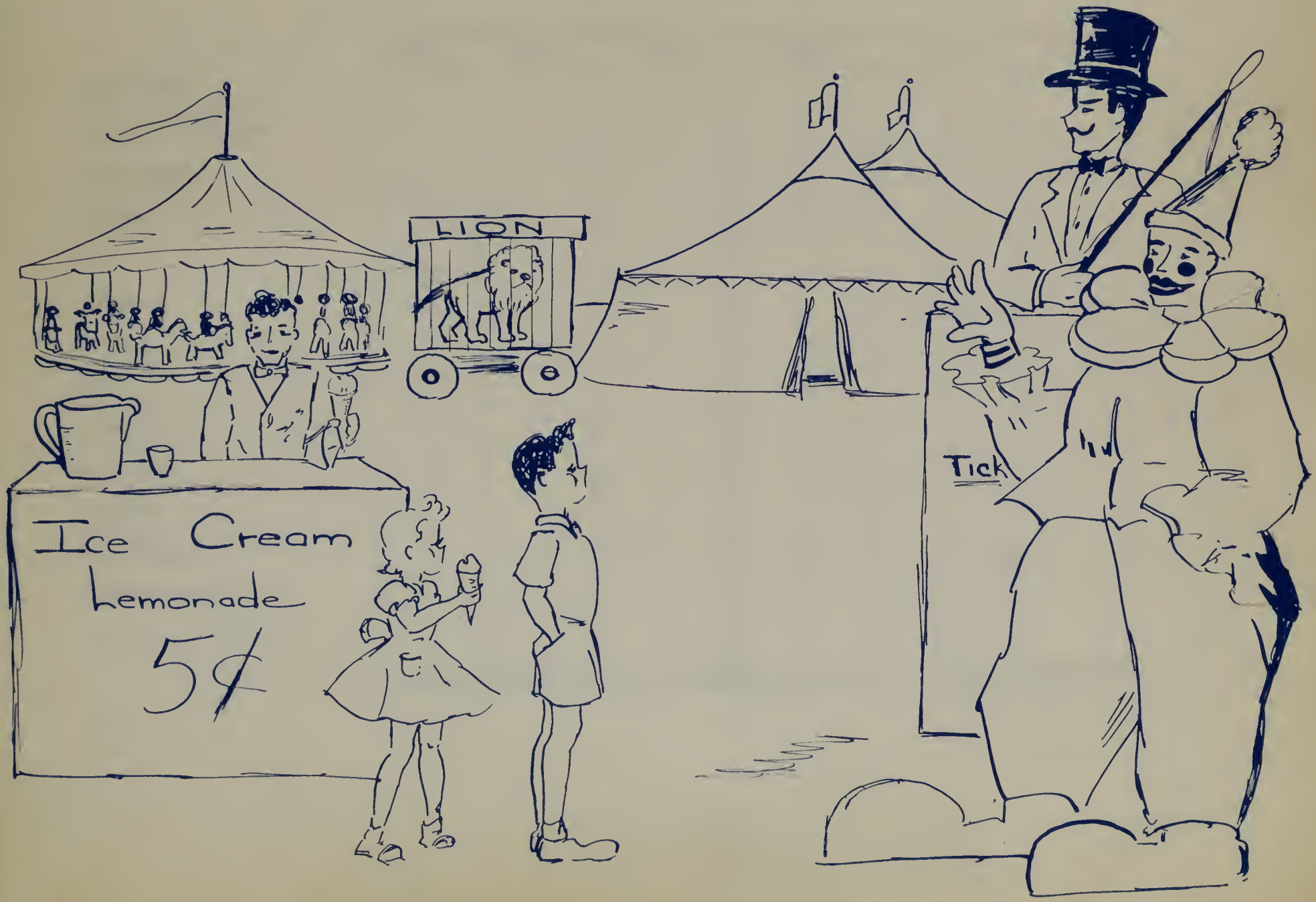
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
airplane						
airport						
goggles						
hangar						
landing field						
leather helmet						
parachute						
propeller						

..... BIRDS .....

bird	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
pigeon						
woodpecker						
robin						
owl						
swan						
parrot						
hawk						
bill						
feathers						
wing						
crow						
tail						

..... CIRCUS .....

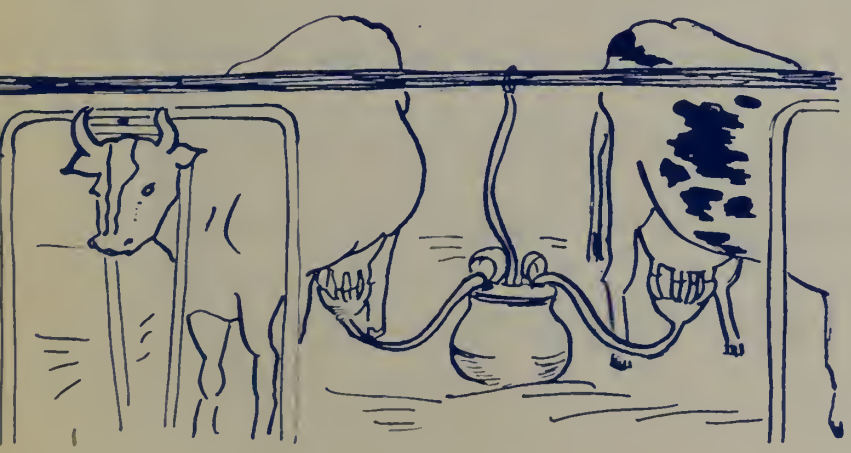
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
What is this a picture of?						
merry-go-round						
clown						
cage						
circus man						
lemonade						
ice cream						
circus ground						

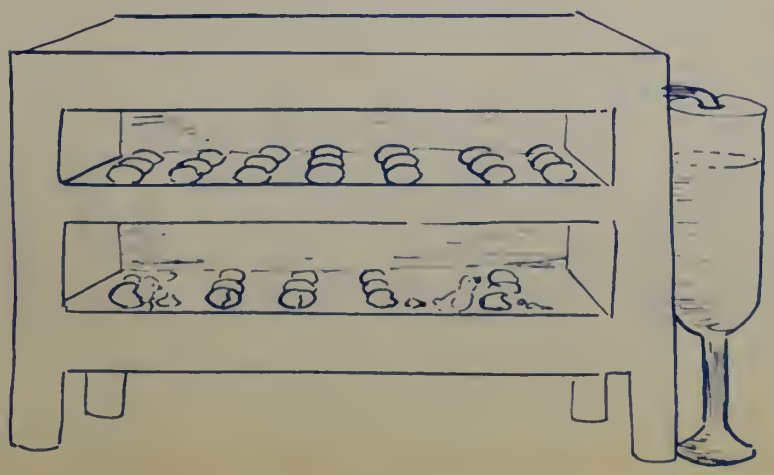

LION
Ice Cream
Lemonade
5¢
Tick

..... CITY AND COUNTRY .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
incubator						
milking machine						
barn yard						
hills						
city						
country						
road						
park						
street						
curb						
corner						
sidewalk						
street sign						
farm						

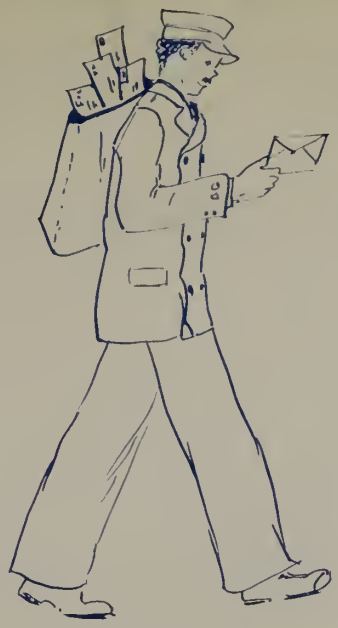
U.S POST OFFICE
FIRST
J.T. FLYNN
MOVING

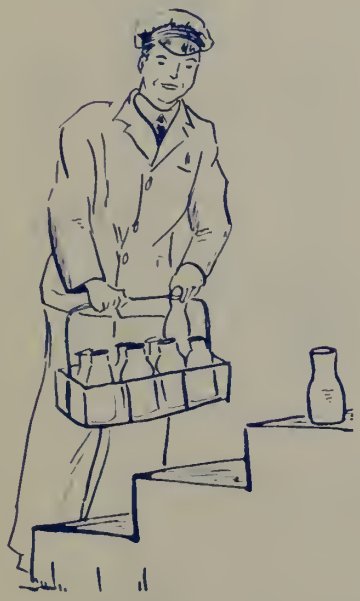


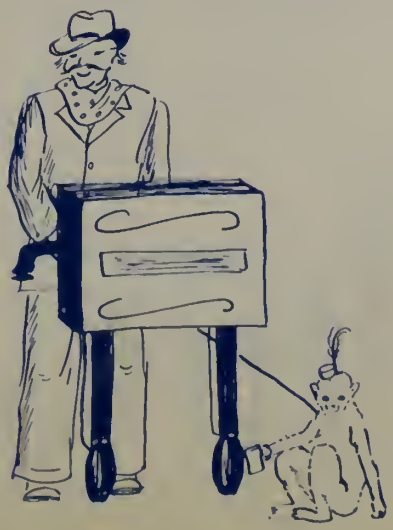


..... COMMUNITY WORKERS, ETC. .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
grocery man						
milk man						
postman						
nurse						
policeman						
mailman						
moving man						
street light						
toy mender						
farmer						
music box						
coat						
weigh						
monkey						
organ man						
paint						
organ						
bundle						
Point to something that plays a tune						

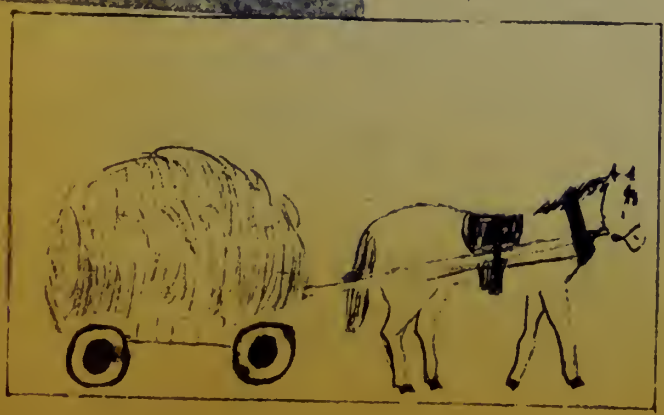


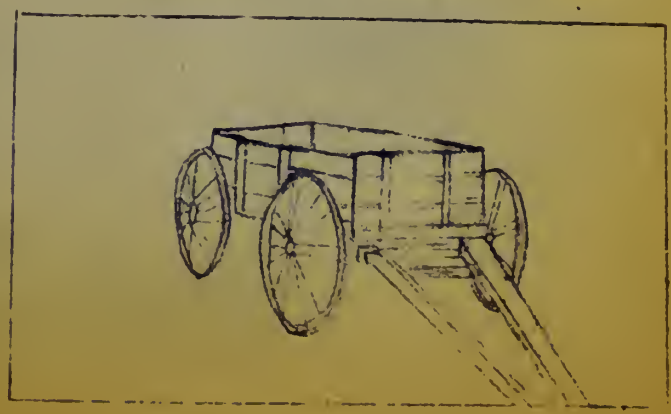




..... FARM .....

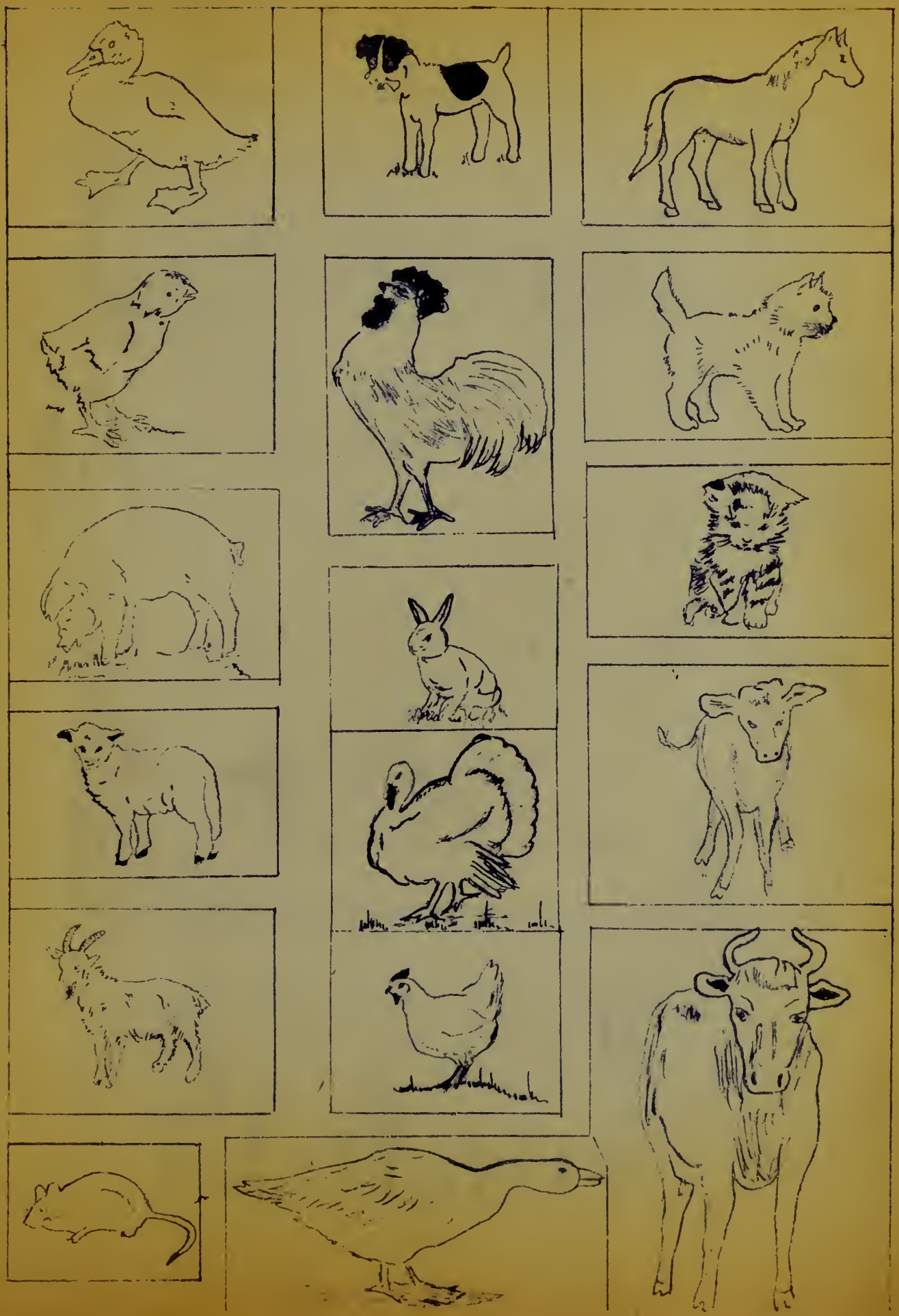
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
orchard						
pasture						
haycock						
wagon						
barn						
strawstack						
haywagon						
stable						
woodshed						
dog house						
chicken house						
shed						





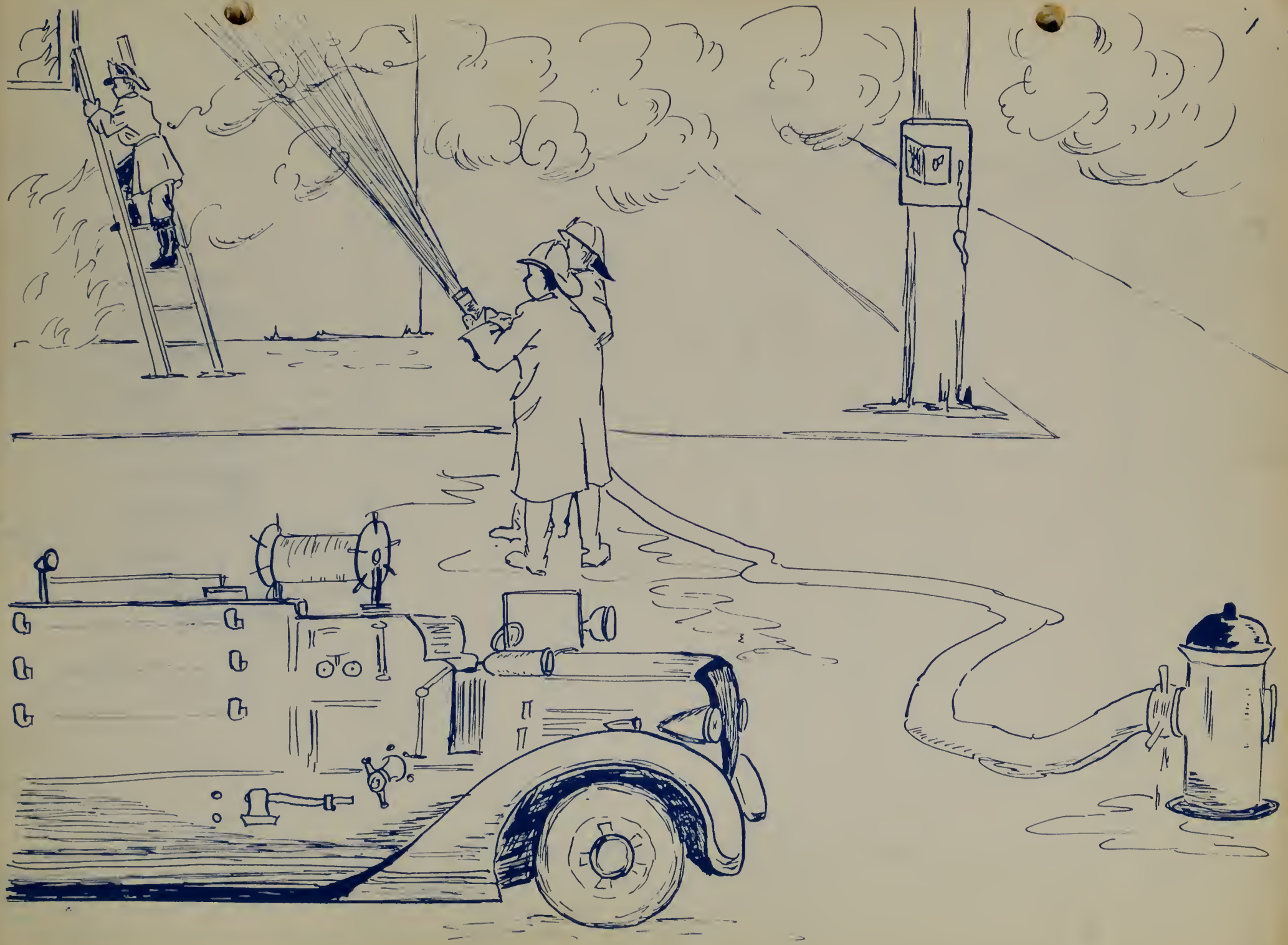
..... FARM ANIMALS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
DUCK						
COW						
RABBIT						
PIG						
KITTEN						
DOG						
CAT						
RAT						
GOAT						
HORSE						
TURKEY						
ROOSTER						
HEN						
CHICKEN						
CALF						
SHEEP						
GOOSE						
LAMB						
BUNNY						
CHICK						
HORNS						
Find the animal that h						
hops						
" " " gives milk						
" " " lays eggs						
" " " gallops						
" " " waddles						
" " " barks						



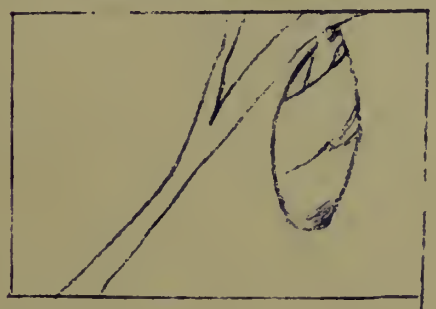
..... FIRE SCENE .....

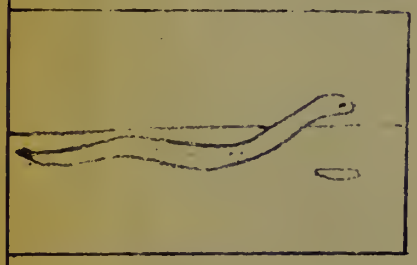
	BOYS		BOYS		TOTAL	GIRLS		GIRLS		TOTAL
fireman										
fire-engine										
ladder										
hose										
siren										
fireplug										
fire										
motor										
wheels										
tires										
point to something that is burning										



..... INSECTS .....

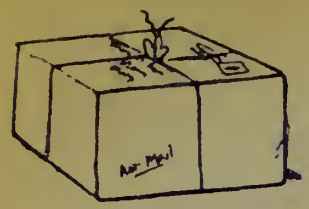
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
cocoon						
lady bug						
spider web						
beetle						
worm						
bumble bee						
grass hopper						
caterpillar						
moth						
point to the insect that stings						

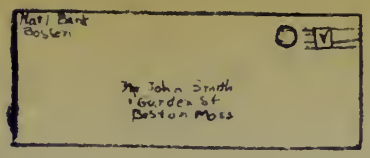


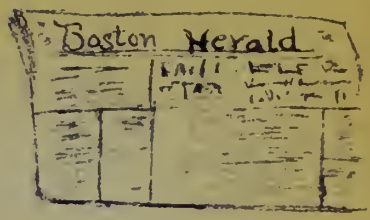


..... MISCELLANEOUS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
seeds						
north						
east						
south						
west						
package						
page						
money						
bonfire						
penny						
newspaper						
a cent						
ten cents						
stamp						
nickel						
postmark						
weeds						
five cents						
letter						
pansy						
point to something that grows						


Mail

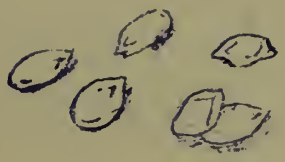

Mail Bank
Boston
Mr John Smith
1 Garden St
Boston Mass

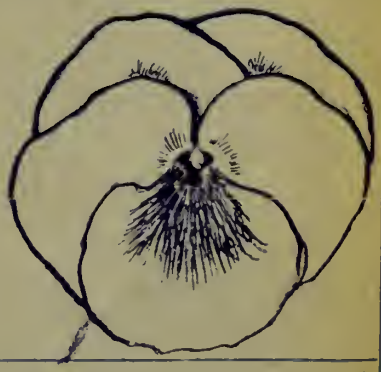

Boston Herald

ONE
CENT
UNITED STATES
OF AMERICA

UNITED STATES OF AMERICA
FIVE CENTS

UNITED STATES OF AMERICA
ONE DIME

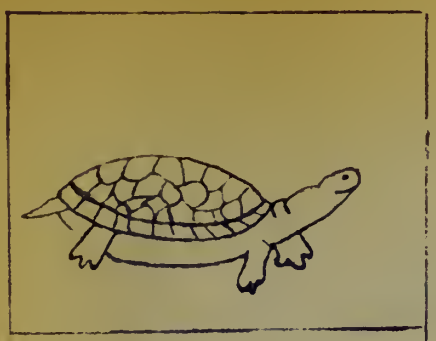


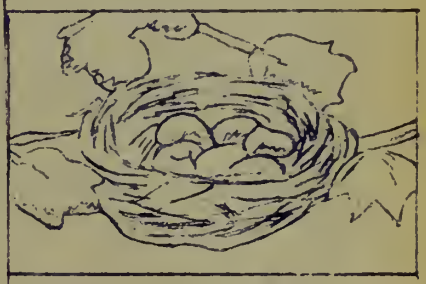


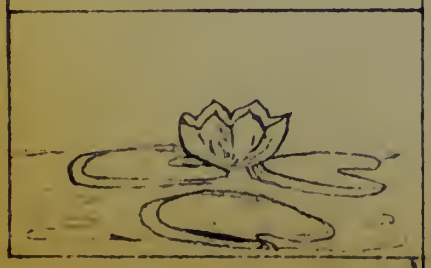
N
E
W
S

..... NATURE .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
cattails						
hollow tree						
toadstool						
bark						
turtle						
fish						
goldfish						
tadpole						
shell						
squirrel						
nest						
pond lily						
frog						

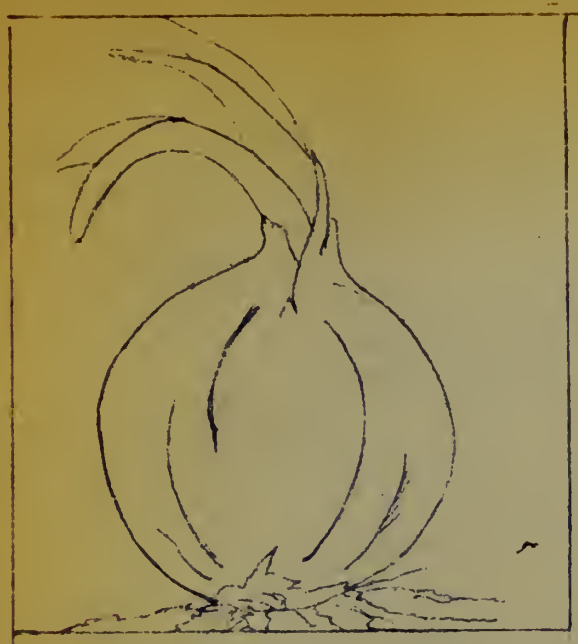






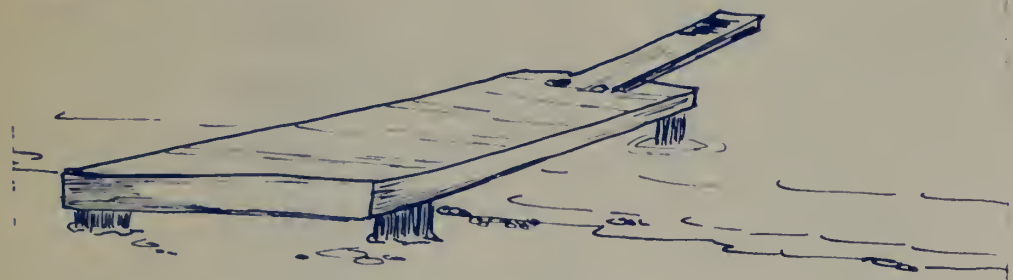
..... NATURE II .....

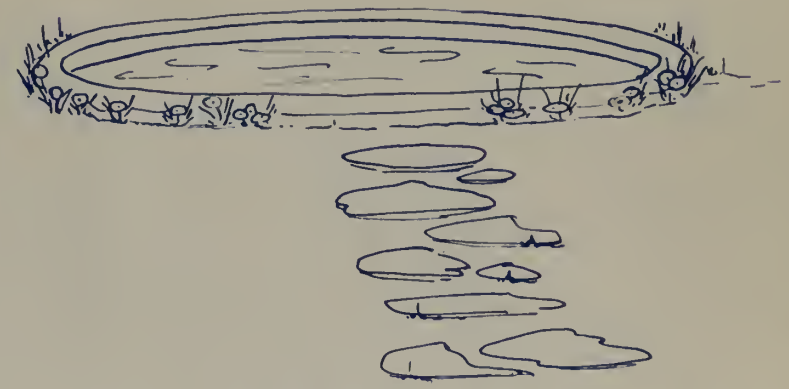
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
petals						
plants						
leaf						
roots						
stem						
grass						
tree						
bush						
branch						
bud						
bulb						
flower						
ground						

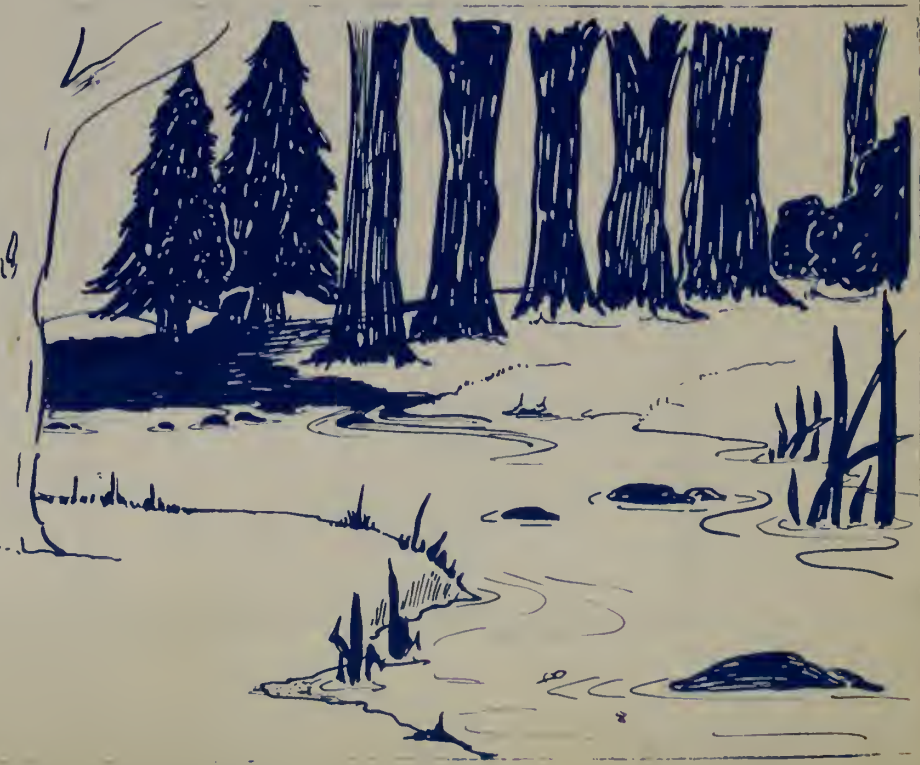


..... NATURE III .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
woods						
pool						
river						
lake						
rock						
mountain						
rainbow						
forest						
brook						
meadow						
pond						
earth						

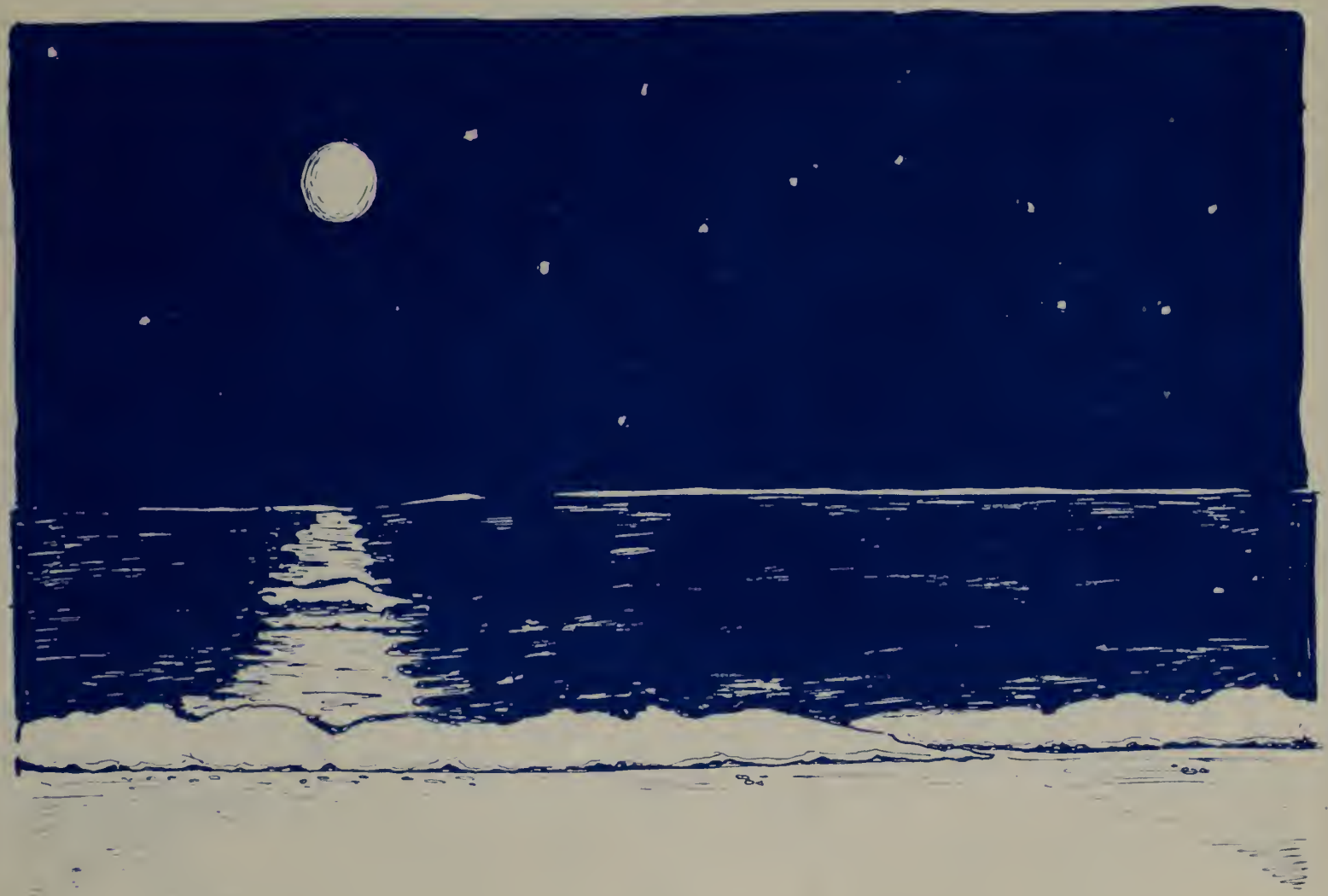






..... NIGHT .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
moon						
stars						
dipper						
sky						
water						



..... SEASONS, ETC. .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
winter						
spring						
summer						
autumn						
fishermen						
pole						
snow						
fall						
hut						
icicles						
snowman						
outdoors						
snowflakes						
scarecrow						
snowball						
ice						
playhouse						
fishing pole						
Find the picture that shows it is cold						
shows it is warm						

..... TRAINS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
conductor						
engineer						
baggage-man						
station						
train						
train track						
dining car						
baggage						
pullman car						
switch engine						
freight engine						
freight yard						
round house						
railroad						
wrecking engine						
steam engine						

LWAY
XPRESS
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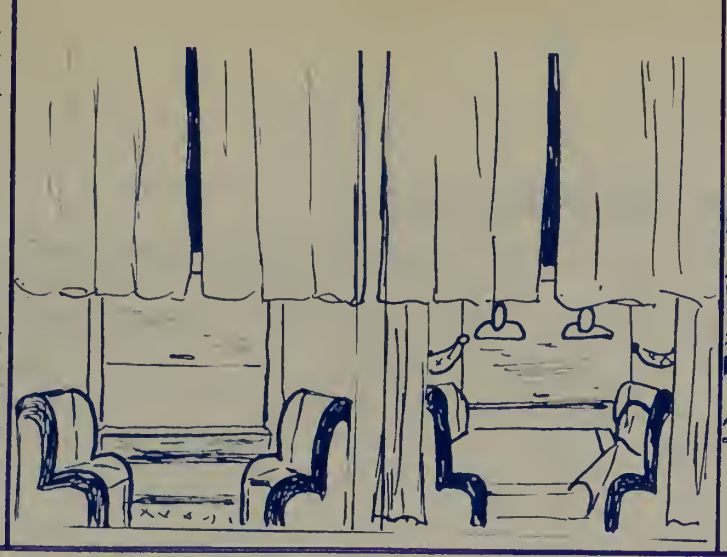
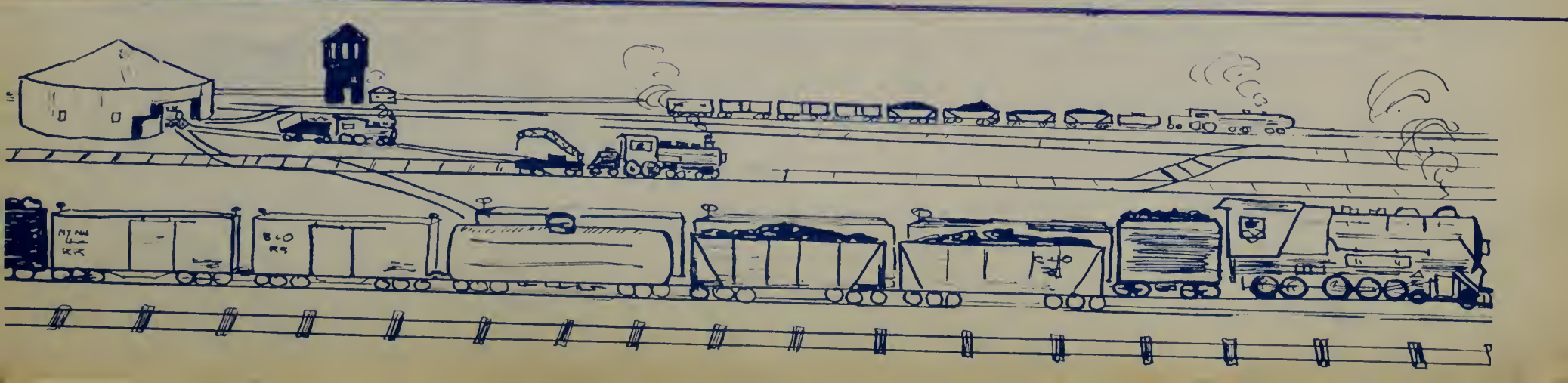
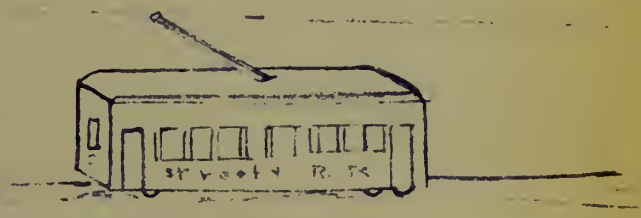


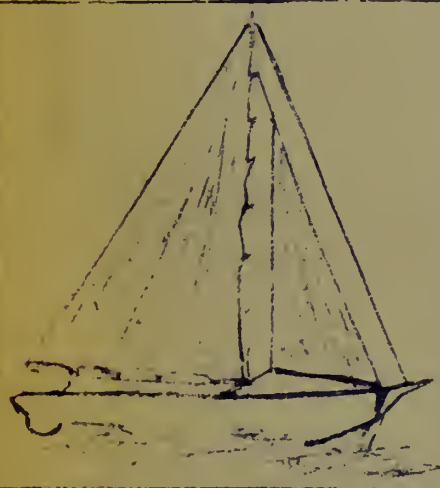
CONCORD



..... TRANSPORTATION, ETC. .....

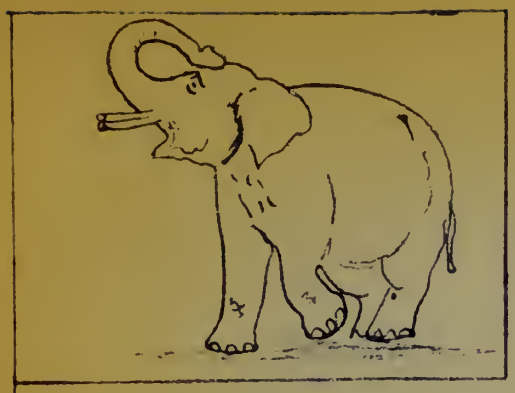
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
land						
car						
clouds						
trucks						
bus						
automobile						
street car						
bicycle						
lighthouse						
sail						
boat						
swanboat						
point to something that uses gas						

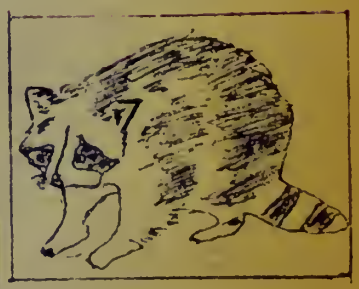




..... WILD ANIMALS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
bear						
deer						
elephant						
beaver						
skunk						
antlers						
fox						
lion						
camel						
chipmunk						
coon						
tiger						
tracks						
paw						
tail						
fur						
Which animal builds a dam?						
Where are these animals kept in this country?						





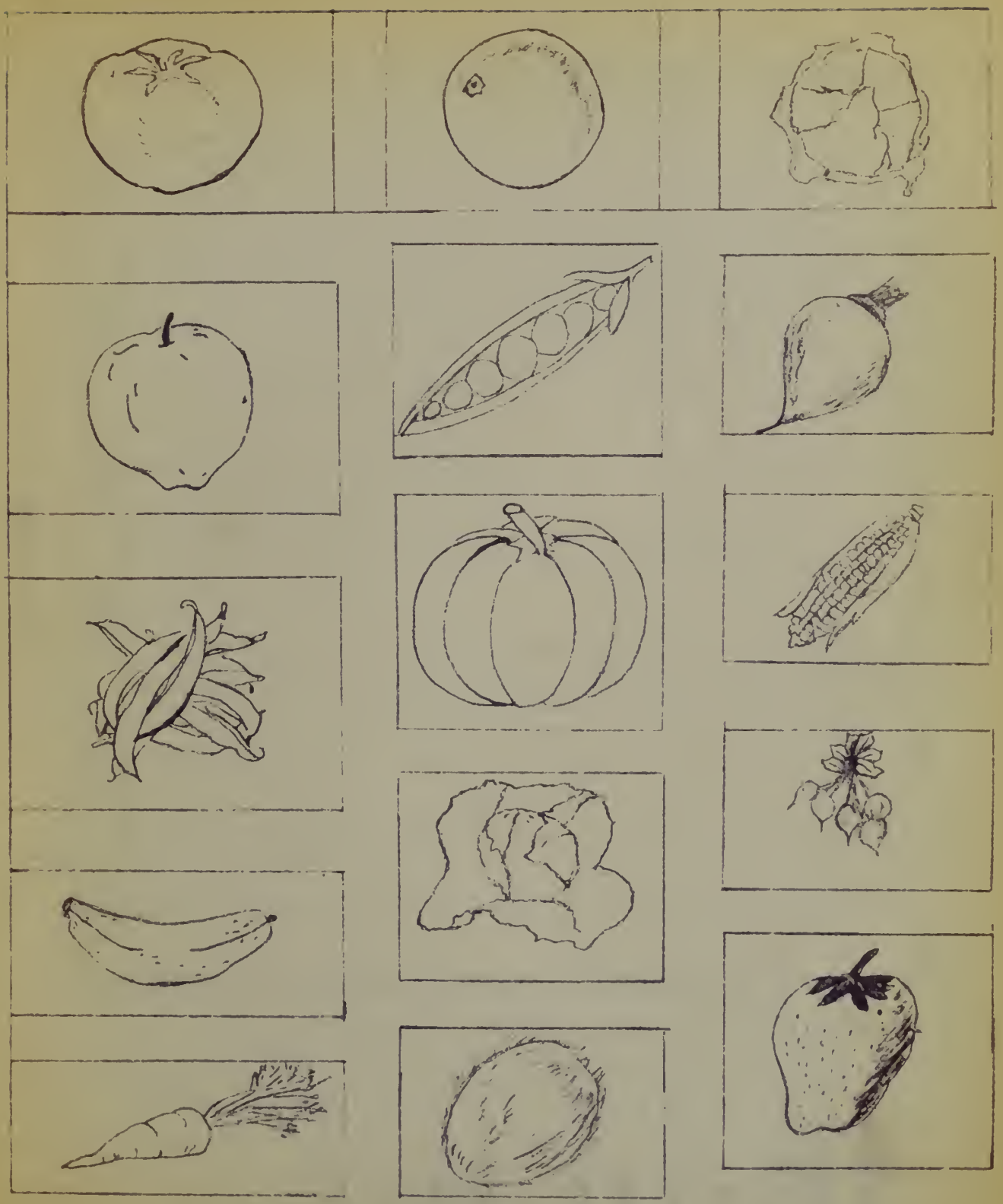
THE FOLLOWING TESTS WERE NOT USED IN THIS STUDY
BUT ARE INCLUDED FOR FURTHER
RESEARCH

..... FAIRIES .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
water baby						
troll						
fairy						
wand						
king						
bridge						
stream						

..... FRUITS AND VEGETABLES .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
radishes						
lettuce						
peas						
beans						
berry						
apple						
banana						
cabbage						
turnip						
carrot						
corn						
pumpkin						
orange						
cocoanut						
pod vegetable fruit						

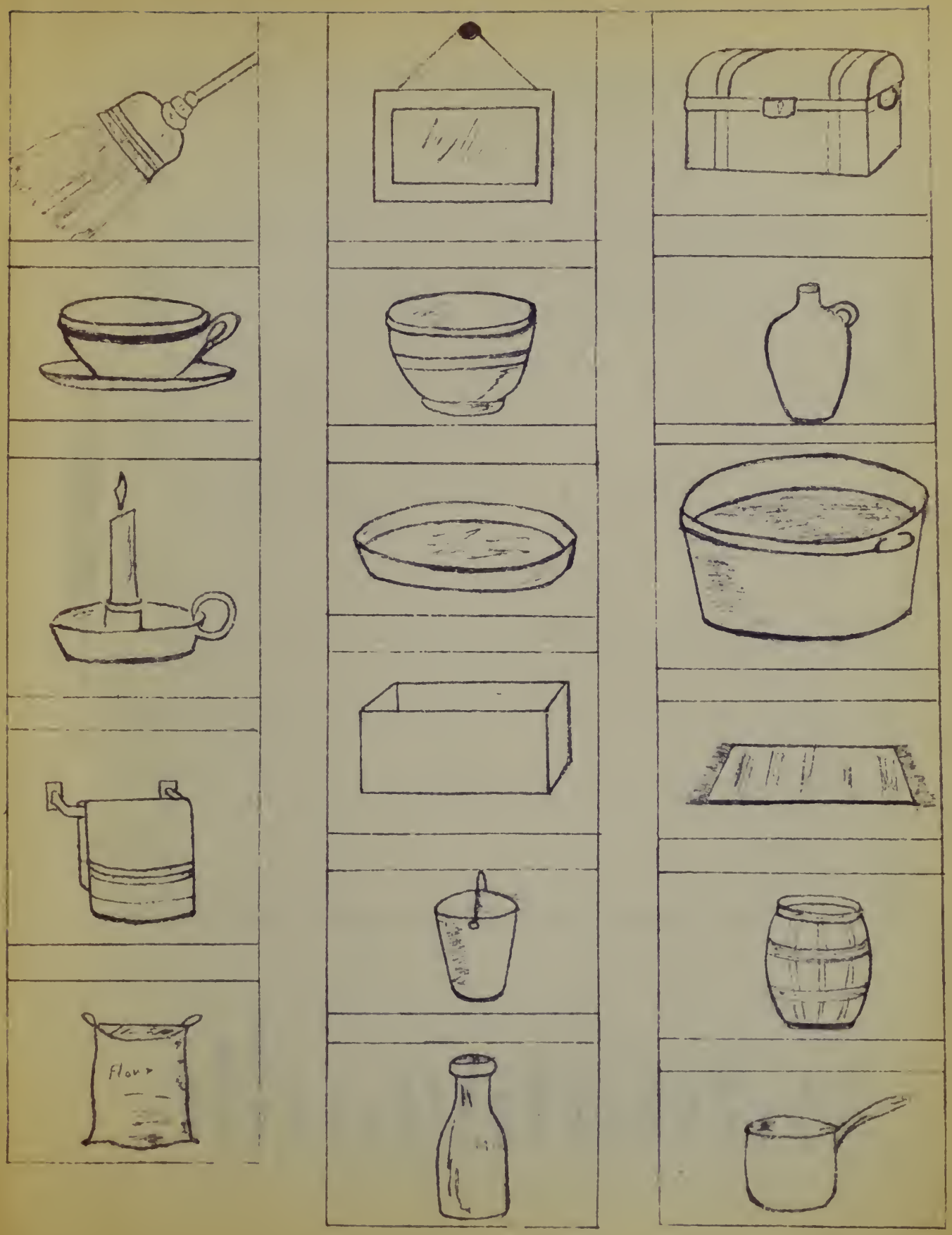


..... HOME .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
roof						
wall						
gate						
porch						
steps						
window						
shingle						
yard						
garage						
garden						
fence						
stone						
vine						
upstairs						
downstairs						

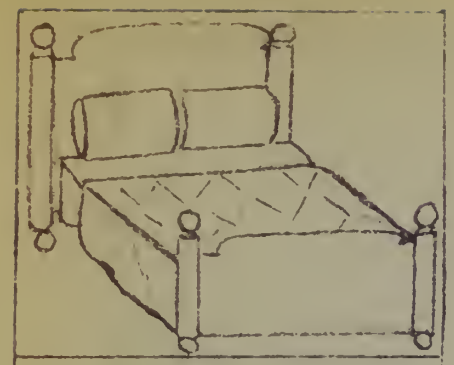
..... HOME UTENSILS .....

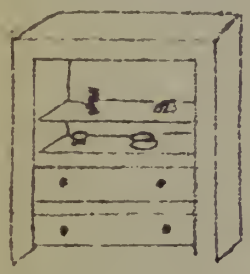
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
mirror						
rug						
dishes						
broom						
towel						
candle stick						
pail						
quart						
box						
jug						
tub						
bowl						
barrel						
bag						
pan						
bottle						
trunk						
bucket						
pot						
candle						
sack						
light						

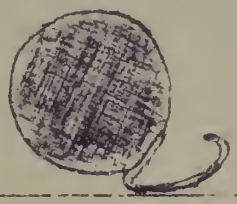

Flour

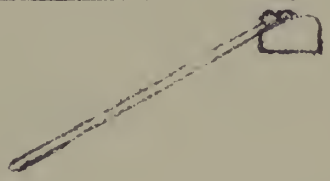
..... HOME UTENSILS II .....

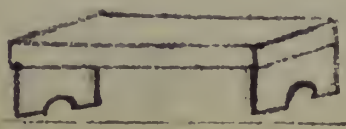
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
bench						
cupboard						
bed covers						
tool						
rake						
bed						
glass						
shelf						
string						
nail						
matches						
spade						
log						
hammer						
brush						
candy						
hoe						
stick						
blanket						

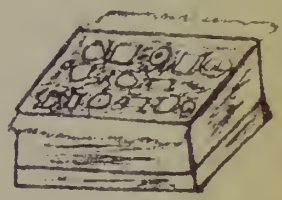


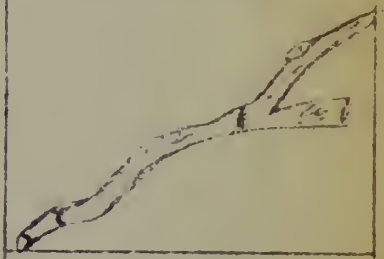


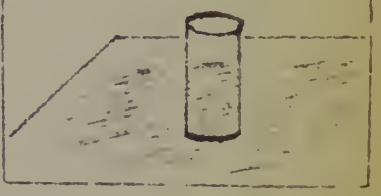






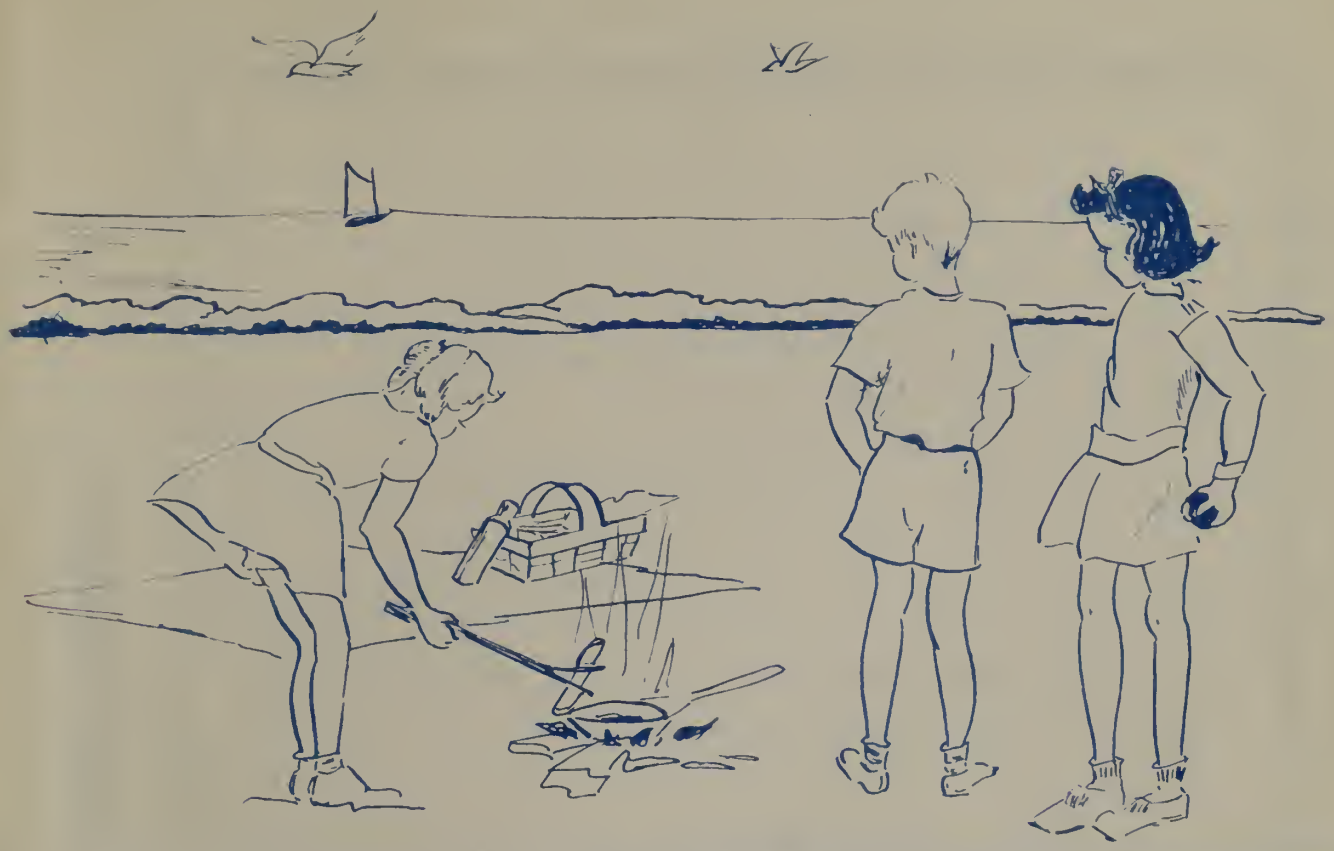


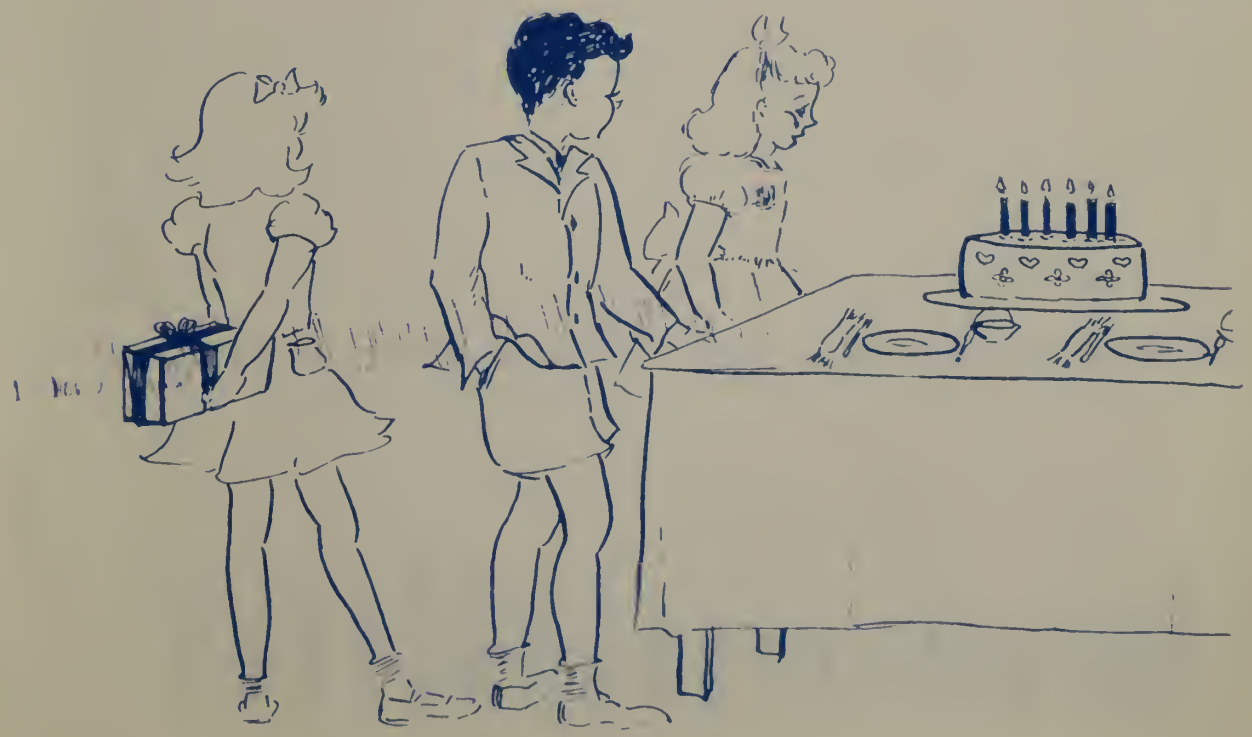




..... PARTIES .....

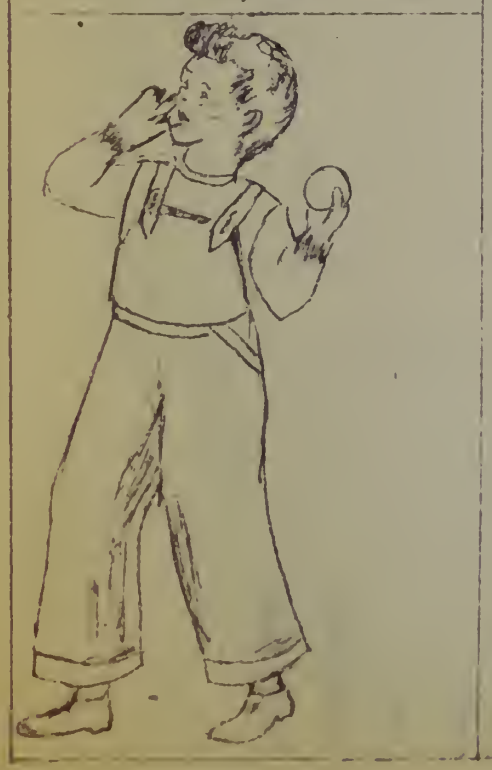
	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
lunch						
birthday						
picnic						
beach						
air						
party						
people						
cake						





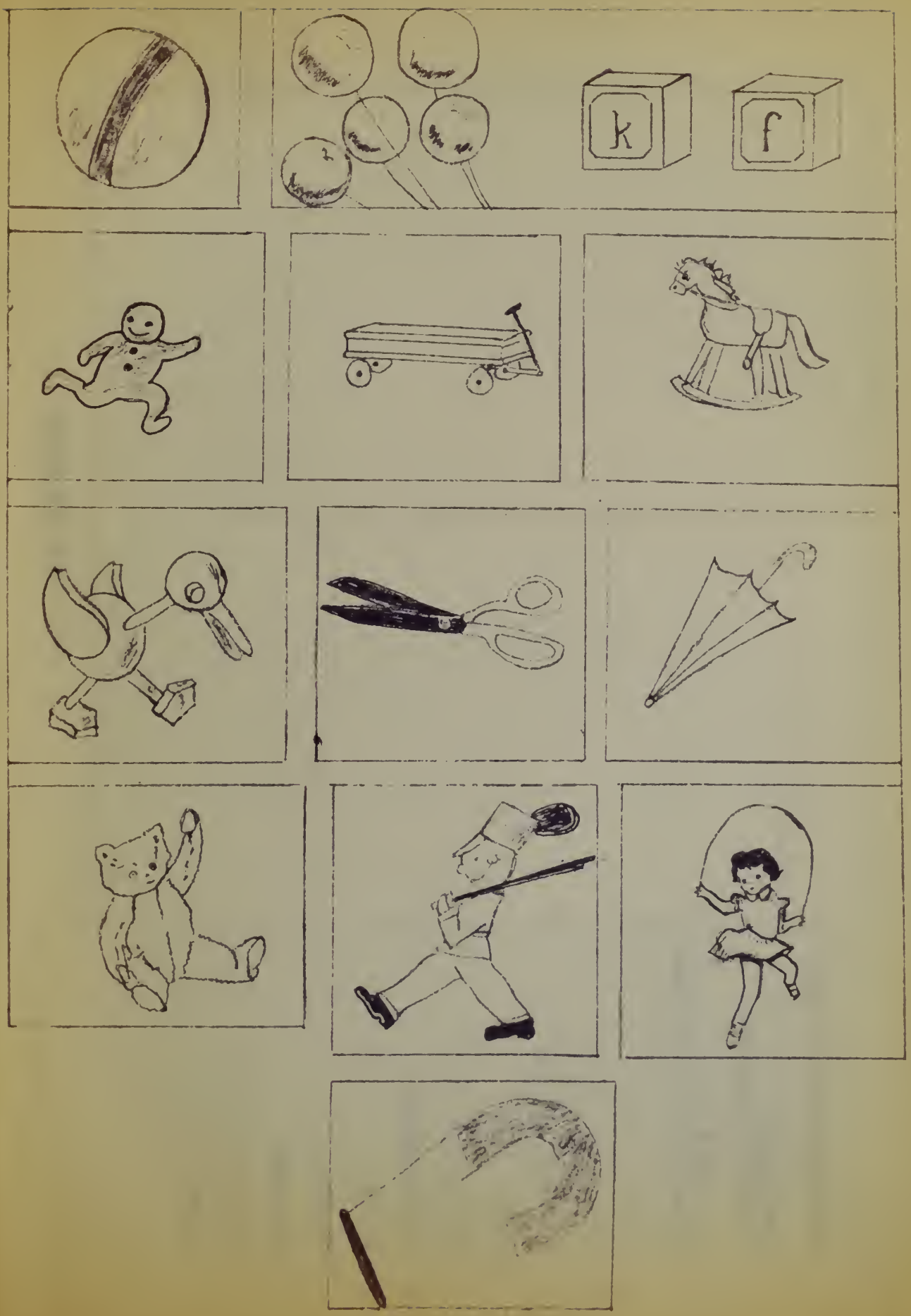
..... PERSONAL BELONGINGS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
overalls						
wool						
cotton						
pocket						
rain coat						
buttons						
puddle						
ear						
neck						
nose						
knee						
head						
hair						
rubber						
feet						
legs						
eyes						
tiptoe						
bone						
sweater						



..... TOYS .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
jump rope						
scissors						
bell						
toy						
blocks						
teddy bear						
wooden horse						
soldier						
gingerbread man						
umbrella						
cart						
saddle						
magnet						
skip						
balloon						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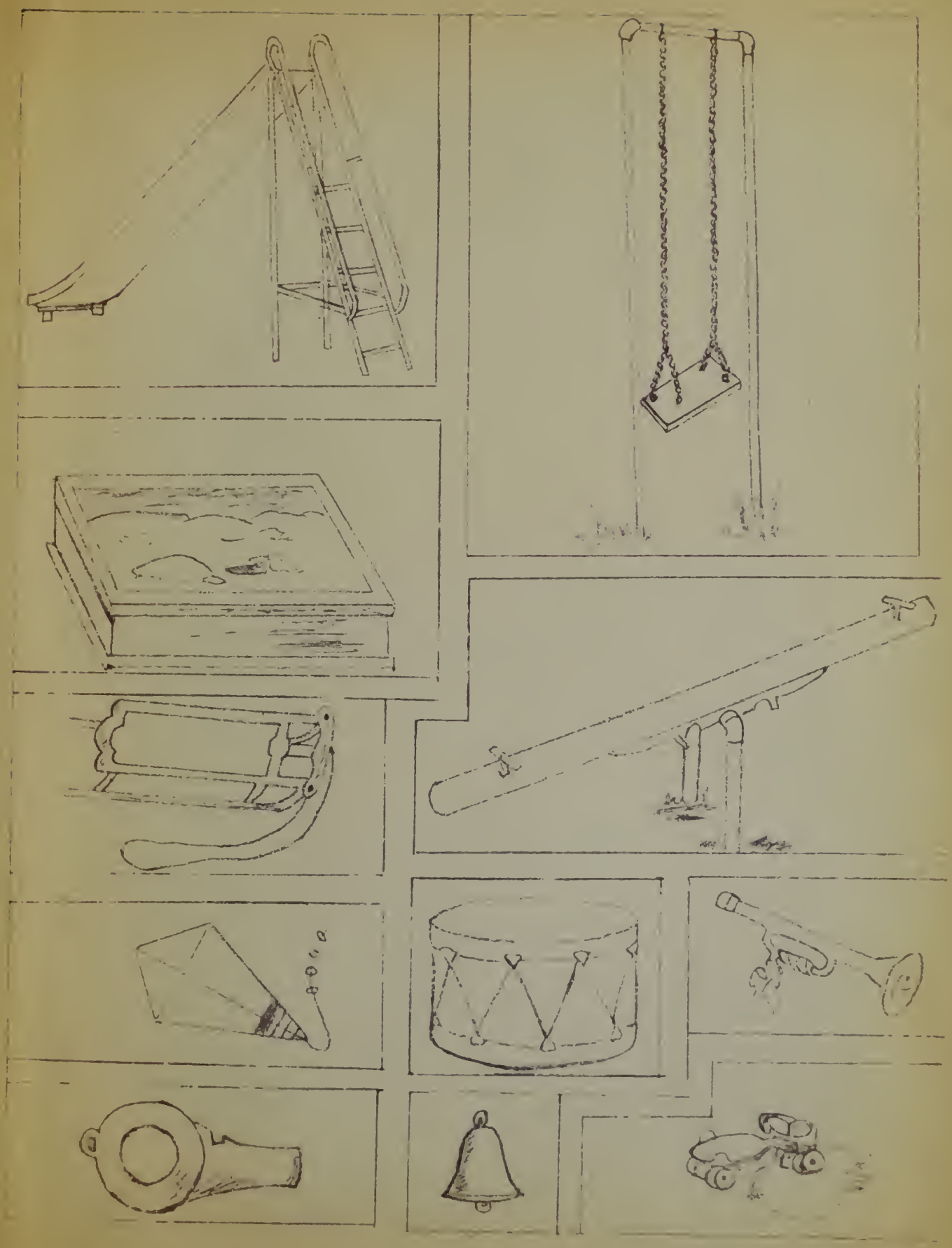
..... TOY EQUIPMENT .....

	BOYS	BOYS	TOTAL	GIRLS	GIRLS	TOTAL
swing						
sled						
see-saw						
sandbox						
slide						
roller skate						
kite						
drum						
whistle						
horn						
sand						
Point to something made of lumber						
something that you coast with						
something made of iron						
bell						



Date Due

[illegible]	1956	DEC 9	1958
AUG 17	1956	Jan 5	1959
OCT 3	1956	FEB 7	1959
NOV 3	1956	FEB 25	1959
NOV 6	1956	FEB 18	1959
NOV [illegible]		April 8,	1959
DEC 5	1956	AUG 6	1959
JUL 17	1957	AUG 21	1959
JUL 24	1957	NOV 5	1959
AUG 16	1957	Renewed	
Sept. 26 '57		DEC 19	1959
[illegible] 1	[illegible]	APR 30	1960
OCT 2	1958	AUG 10	1963
OCT 23	1958	AUG [illegible]	1963
		SEP 30	
	JUL 5	1966	

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